NOTICES OF PROPOSED RULEMAKING

Unless exempted by A.R.S. § 41-1995, each agency shall begin the rulemaking process by 1st filing a Notice of Proposed Rulemaking, containing the preamble and the full text of the rules, with the Secretary of State's Office. The Secretary of State shall publish the notice along with the Preamble and the full text in the next available issue of the Arizona Administrative Register.

Under the Administrative Procedure Act (A.R.S. § 41-1001 et seq.), an agency must allow at least 30 days to elapse after the publication of the Notice of Proposed Rulemaking in the Register before beginning any proceedings for adoption, amendment, or repeal of any rule. A.R.S. §§ 41-1013 and 41-1022.

NOTICE OF PROPOSED RULEMAKING

TITLE 9. HEALTH SERVICES

CHAPTER 14. DEPARTMENT OF HEALTH SERVICES LABORATORIES

PREAMBLE

1. Section Affected / Rulemaking Action

Section Affected	Rulemaking Action
R9-14-601	Amend
R9-14-602	Amend
R9-14-603	Amend
R9-14-604	Renumber
R9-14-604	New Section
R9-14-605	Renumber
R9-14-605	Amend
R9-14-606	Renumber
R9-14-606	Amend
R9-14-607	Renumber
R9-14-607	Amend
R9-14-608	Renumber
R9-14-608	Amend
R9-14-609	Renumber
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R9-14-614	Renumber
R9-14-614	Amend
R9-14-615	Renumber
R9-14-615	Amend
R9-14-616	Renumber
R9-14-616	Amend
R9-14-617	Renumber
R9-14-617	Amend
R9-14-618	Renumber
R9-14-618	Amend

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statutes: A.R.S. § 36-136(A)(7) and 36-136(F)

Implementing statutes: A.R.S. § 36-495.01(B) and 36-495.13(A)

3. **The name and address of agency personnel with whom persons may communicate regarding the rule:**

Name:	Steven D. Baker, Program Manager
Address:	Department of Health Services Office of Laboratory Licensure, Certification, and Training 3443 North Central Avenue # 810 Phoenix, Arizona 85012
Telephone:	(602) 255-3454
Fax:	(602) 255-3462

4. **An explanation of the rule, including the agency's reasons for initiating the rule:**

The rules pertain to the licensure of environmental laboratories which conduct testing of samples for state and federal compliance purposes. The rules provide for minimum standards of proficiency, methodology, quality assurance, operation, and safety for environmental laboratories.

Rules are being amended to add clarifications, make corrections, and update methodologies to the current rule.

5. **A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant authority of a political subdivision of this state:**

Not applicable.

6. **The preliminary summary of the economic, small business, and consumer impact:**

The small chemistry laboratories will see a decrease in the application fee, while the larger laboratories will see no change in application fee. Laboratories that convert from the older methods to the newer methods which involve the same technology, will experience little to no changes in the methods fees. Laboratories which expand testing into newer technologies, will see some change in the methods fees, however, this would be the case under the current rule also.

The economic impact on the consumer, would be minimal or none, however the consumer would be able to request the newer methods required for compliance testing.

7. **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name:	Steven D. Baker, Program Manager
Address:	Department of Health Services Office of Laboratory Licensure, Certification, and Training 3443 North Central Ave. # 810 Phoenix, Arizona 85012
Telephone:	(602) 255-3454
Fax:	(602) 255-3462

8. **The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule.**

Date:	December 16, 1996	December 17, 1996	December 18, 1996
Time:	10 a.m.	1 p.m.	10 a.m.
Location:	Coconino County Dept. Health Services 2500 North Fort Valley Rd. Flagstaff, Arizona	ADHS 1740 West Adams 3rd. Fl., Room 309 Phoenix, Arizona	Tucson State Complex 400 North Congress 400 North Bldg, Room 131 Tucson, Arizona
Nature:	Public Meetings		

Written comments may be submitted until the close of records, December 18, 1996, at 5:00 p.m., to:

Name:	Steven D. Baker, Program Manager
Address:	Department of Health Services Office of Laboratory Licensure, Certification, and Training 3443 North Central Avenue # 810 Phoenix, Arizona 85012

9. **Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:**

Not applicable.

10. **Incorporation by reference and their location in the rules:**

R9-14-608:

"Methods for Chemical Analysis of Water and Wastes," EPA 600/4-79-020, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, revised March 1983.

"Methods for the Determination of Metals in Environmental Samples-Supplement 1", EPA 600/R-94-111, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, May 1994.

"Methods for the Determination of Inorganic Substances in Environmental Samples", EPA-600/R-93-100, August 1993.

"Interim Radiochemical Methodology for Drinking Water," EPA 600/4-75-008, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, revised March 1976.

"Standard Methods for the Examination of Water and Wastewater," APHA-AWWA-WPCF, Washington, D.C., 19th Edition, 1995.

"Hach Handbook of Water Analysis," 1979, Hach Chemical Company, Loveland, CO 80537.

"Iron, 1,10-Phenanthroline Method," Method 8008, 1980, Hach Chemical Company, P.O. Box 389, Loveland, CO 80537.

"Methods for the Determination of Organic Compounds in Drinking Water," EPA/600/4-88/039, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, July 1991.

"Methods for the Determination of Organic Compounds in Drinking Water, Supplement I", EPA/600/R-92/129, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, June 1991.

"Methods for the Determination of Organic Compounds in Drinking Water, Supplement II", EPA/600/R-92/129, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, August 1992.

"Manual for the Certification of Laboratories Analyzing Drinking Water, Third Edition," EPA 570/9-90/008, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, April, 1990, and Updated September 1992.

"The Determination of the Maximum Total Trihalomethane Potential," Method 510.1, EMSL, EPA, Cincinnati, Ohio 45268.

"Tetra-through Octa-Chlorinated Dioxins and Furans by Isotope-Dilution HRGC/HRMS", EPA-821-B-94-005, October 1994.

"Appendix A To Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater," 40 CFR 136, 1995.

"Appendix C to Part 136 - Inductively Coupled Plasma - Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes, Method 200.7," 40 CFR 136, 1996.

"Test Methods for Evaluating Solid Waste," EPA SW-846, 3rd Edition, EPA, Office of Solid Waste and Emergency Response, Washington, D.C., September, 1986, and updated September 1994.

"PCB's in Transformer Oil/Waste Oil," EPA 600/4-81-045, September 1982.

"National Institute for Occupational Safety and Health Manual of Analytical Methods," U.S. Department of Health and Human Services, Cincinnati, Ohio, 3rd Edition, February, 1984, updated May 1989.

"Interim Method for Determination of Asbestos in Bulk Insulation Samples," EPA 600/4-82-020, EPA, Environmental Monitoring Systems Laboratory, Research Triangle Park, North Carolina, March 1982.

"Analytical Method for Determination of Asbestos Fibers in Water," EPA/600/4-83-043, EPA, Environmental Research Laboratory, Athens, GA, September 1983.

"Annual Book of ASTM Standards," Volume 11.01 and 11.02, Water and Environmental Technology, American Society for Testing and Materials, Philadelphia, Pennsylvania, 1994.

"Methods for Determination of Inorganic Substances in Water and Fluvial Sediments", U.S. Department of Interior, U.S. Geological Survey, Washington, D.C., Third Edition 1989.

Test Methods for the Determination of: "Ethylene Dibromide and Dibromochloropropane in Water," BLS-127, revised June, 1990; "TPH in Soil," 418.1AZ, revised September 7, 1994; "Ethylene Glycol in "Wastewater," BLS-188, revised April, 1990; and "Quantitation of Fuel Class Hydrocarbons by GC," BLS-191, issued September 1991, Arizona Department of Health Services, Division of State Laboratory Services, Phoenix, Arizona.

"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," EPA 600/4-80-032, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, August 1980.

"Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms," EPA/600/4-90/027F, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, August 1993.

"Manual for the Evaluation of Laboratories Performing Aquatic Toxicity Tests," EPA/600/4-90/031, January 1991.

"Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, EPA/600/R-92/080, EPA Office of Research and Development, Washington, D.C., September 1993.

"Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, EPA/600/R-92/081, EPA Office of Research and Development, Washington, D.C., September 1993.

"Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA 600/4-89-001 and EPA 600/4-89-001a, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, 1989 and Supplement, PB90-14564, September 1989.

"National Primary and Secondary Ambient Air Quality Standards," 40 CFR 50, Subchapter C, 1990.

"USEPA Manual of Methods for Virology," EPA 600/4-84/013, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, February 1984.

"Standards of Performance For New Stationary Sources, Appendix A -Test Methods," 40 CFR 60, Appendix A, 1993.

"Arizona Testing Manual For Air Pollutant Emissions," Arizona Office of Air Quality, Phoenix, Arizona, May 15, 1989, Revision E.

"National Emission Standards for Hazardous Air Pollutants, Appendix B Test Methods and Appendix C - Quality Assurance Procedures," 40 CFR 61, Appendix B and C, 1994.

Broadway, et al., "Final Report of Equivalency Testing for Colisure," Montana State University, Bozeman, MT, September 29, 1992.

"National Primary Drinking Water Regulations," 40 CFR 141, Subpart C, Appendix C, 1994.

"The Determination of Inorganic Anions in Water by Ion Chromatography," EPA 600/4-84-017, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, August 1991.

Environmental Measurements Laboratory (EML) Procedures Manual, HASL-300, Vol. 1, U.S. Department of Energy, 27th Edition, 1990, New York, NY

Radiochemistry Procedures Manual, Eastern Environmental Radiation Facility (EERF) EPA-Montgomery, EPA 520/5-84/006, Montgomery, AL., August 1984.

Radiochemical Analytical Procedures for Analysis of Environmental Samples, EPA, Environmental Monitoring and Support Laboratory (EMSL). EMSL-LV0539-17, Las Vegas, NV., March 1979.

"Test Methods for Escherichia coli in Drinking Water, EC Medium with Mug Tube Procedure, Nutrient Agar with Mug Membrane Filter Procedure," EPA 600/4-91/016, EPA, Environmental Monitoring Systems Laboratory, Cincinnati, Ohio, July 1991.

11. The full text of the rule follows:

TITLE 9. HEALTH SERVICES

CHAPTER 14. DEPARTMENT OF HEALTH SERVICES LABORATORIES

ARTICLE 6. LICENSING OF ENVIRONMENTAL LABORATORIES

Section
R9-14-601. Definitions
R9-14-602. License Applicability ~~and Transition~~
R9-14-603. Licensure Process for Laboratories Not Currently Licensed by the State of Arizona
R9-14-604. ~~Provisional License~~ Licensure Renewal Process
~~R9-14-604.~~R9-14-605 Provisional Licensure
~~R9-14-605.~~R9-14-606 Licensure Fees
~~R9-14-606.~~R9-14-607 ~~Performance~~ Proficiency Evaluation
~~R9-14-607.~~R9-14-608 Approved Methods and References
~~R9-14-608.~~R9-14-609 Drinking Water Sample Matrix
~~R9-14-609.~~R9-14-610 Wastewater Sample Matrix
~~R9-14-610.~~R9-14-611 Solid, Liquid, and Hazardous Waste Sample Matrix
~~R9-14-611.~~R9-14-612 Air Sample Matrix
~~R9-14-612.~~R9-14-613 Quality Assurance
~~R9-14-613.~~R9-14-614 Operation
~~R9-14-614.~~R9-14-615 Laboratory Records and Reports
~~R9-14-615.~~R9-14-616 Laboratory Safety
~~R9-14-616.~~R9-14-617 Mobile Laboratories
~~R9-14-617.~~R9-14-618 Out-of-state Environmental Laboratory Licensure

ARTICLE 6. LICENSING OF ENVIRONMENTAL LABORATORIES

R9-14-601. Definitions

Words and phrases defined in A.R.S. § 36-495 have the same meaning when used in these rules. In this Article, unless the context otherwise requires:

1. "ADEQ" means the Department of Environmental Quality.
2. "Approved method" means an analytical test method which ~~has been~~ is required by law or is recognized by the Department as acceptable for a specific usage.
3. "Arizona Permit System for Aquifer Protection" means A.R.S. § 49-241 through 49-251.
4. "Arizona Permit System for Reuse of Wastewater" means A.R.S. § 49-104 and 49-250.
5. "Blind proficiency evaluation audit" means a series of ~~performance~~ proficiency evaluation samples submitted to the laboratory in such a manner that the laboratory is unaware that it is testing a ~~performance~~ proficiency evaluation sample.
6. "Categories" of laboratory testing means drinking water, wastewater, hazardous waste, or air.
~~6.~~7. "Clean Air Act" means 42 U.S.C.A. § 7401-7642.
~~7.~~8. "Clean Water Act" means 33 U.S.C.A. § 1251-1376.

~~8.~~ 9. "Combination" means the approved method licensure fee for any combination of methods listed in that paragraph.

9.10."Comprehensive Environmental Response, Compensation and Liability Act" means 42 U.S.C.A. § 9601-9657.

~~10.~~11."Environmental water laboratory" means a laboratory that holds a valid license issued by the Department prior to the effective date of this Article.

~~11.~~12."EPA" means the United States Environmental Protection Agency.

~~12.~~13."Federal Insecticide Fungicide and Rodenticide Act" means 7 U.S.C.A. § 136-136y.

~~13.~~14."Intercomparison studies" means the ~~performance~~ proficiency evaluation service for radiochemical samples established by EPA's Environmental Monitoring Systems Laboratory.

~~14.~~15."Licensure" means the approval by the Department of a laboratory to perform compliance testing for environmental monitoring programs, categories of laboratory testing, parameters of laboratory testing and approved methods of laboratory testing as defined in A.R.S. § 36-495.03 *et seq.* and this Article.

~~15.~~16."Parameter" means one of a set of chemical, physical, radiochemical, microbiological or biological properties whose value determine the characteristics of an environmental sample.

~~16.~~17."~~Performance~~ Proficiency evaluation audit" means a series of samples submitted to a laboratory for use in evaluating the laboratory's ability to correctly analyze compliance testing samples using approved methods.

~~17.~~18."~~Performance~~ Proficiency evaluation service" means the Department, EPA, or an independent service acceptable to the Department who provides ~~performance~~ proficiency evaluation audit materials and evaluates the correctness of the ~~performance~~ proficiency evaluation audit results.

~~18.~~19."Principal State Laboratory System" means the Department, Division of State Laboratory Services and the Arizona Radiation Regulatory Agency Laboratory, which are certified by EPA.

~~19.~~20."Radiation assessment ~~performance~~ proficiency evaluation audit" means any ~~performance~~ proficiency evaluation service or ~~performance~~ proficiency evaluation audit required by EPA under the Safe Drinking Water Act for radiochemistry testing.

~~20.~~21."Resource Conservation and Recovery Act" means 42 U.S.C.A. § 6921-6939B.

~~21.~~22."Safe Drinking Water Act" means 42 U.S.C.A. § 300f-300j-11.

~~22.~~23."Single Method" means the approved method licensure fee for any single method listed in that paragraph.

24. "Temporary license" means a license issued to a laboratory that meets the criteria in R9-14-603(F) before an on-site evaluation is performed by the Department.

~~23.~~25."Toxic Substances Control Act" means 42 U.S.C.A. § 2601-2654.

~~24.~~26."U.S.C.A." means United States Code Annotated.

~~25.~~27."Underground Storage Tank Regulation" means A.R.S. §§ 49-1001 through 49-1014.

~~27.~~28."Water pollution ~~performance~~ proficiency evaluation audit program" means any ~~performance~~ proficiency evaluation service or ~~performance~~ proficiency evaluation audit established by EPA under the Clean Water Act.

~~28.~~29."Water Quality Assurance Revolving Fund" means the fund and criteria established under A.R.S. §§ 49-282 through 49-287.

~~26.~~30."Water supply study audit program" means any ~~performance~~ proficiency evaluation service or ~~performance~~ proficiency evaluation audit required by EPA under the Safe Drinking Water Act.

R9-14-602. License Applicability ~~and Transition~~

A. This Article shall not apply to compliance testing of parameters as outlined in A.R.S. § 36-495.02(A)(3). ~~conducted outside of a laboratory so long as this testing uses an approved method or a method directed by ADEQ, and the testing is performed at the time of sample collection.~~

B. This Article shall not apply to laboratory compliance testing which is performed pursuant to ~~the Toxic Substances Control Act and~~ the Federal Insecticide Fungicide and Rodenticide Act.

~~C. An environmental laboratory which is not licensed at the effective date of this Article maybe deemed to be in compliance with this Article and A.R.S. Title 36, Chapter 4.3, Article 1, if the environmental laboratory owner or laboratory director submits to the Department, within 120 calendar days from the effective date of this Article, a completed application for licensure and all applicable licensure fees, and the laboratory meets the standards set forth in this Article.~~

~~D. An environmental water laboratory which has been issued a current license by the Department prior to the effective date of this Article shall be deemed to be in compliance with this Article and A.R.S. Title 36, Chapter 4.3, Article 1, if the environmental laboratory owner or laboratory director submits to the Department, within 30 calendar days from the effective date of this Article, a completed application for licensure and all applicable licensure fees.~~

~~E. Subsections (C) and (D) of this section shall apply to a laboratory until either of the following occurs:~~

~~1. The laboratory owner or operator is issued an environmental laboratory license pursuant to this Article, or~~

~~2. The laboratory owner or operator is denied an environmental laboratory license.~~

~~F. A person who has an application for an environmental water laboratory license pending on the effective date of this Article shall be issued an environmental laboratory license upon the payment of fees and compliance with the requirements of A.R.S. Title 36 Chapter 4.3 and this Article.~~

R9-14-603. Licensure Process for Laboratories Not Currently Licensed by the State of Arizona

A. To obtain a license the laboratory shall file ~~an~~ a complete application on a form provided by the Department and submit payment of all applicable fees to the Department pursuant to A.R.S. § 36-495.03(A) and (B), and ~~this Article~~ pursuant to R9-14-607(B).

B. ~~Excluding mobile laboratories, multiple~~ Multiple laboratories located on contiguous grounds and under the same ownership may be licensed under a single license provided that the real property on which the laboratories are located can be enclosed by a single unbroken boundary line which does not enclose property owned or leased by others.

C. Multiple laboratories, including mobile laboratories located on noncontiguous grounds and under the same ownership may be licensed independently or under a single license at the owner's discretion. If the laboratory chooses the single license option, each nonmobile laboratory shall be located within Arizona and each mobile laboratory shall maintain Arizona vehicle registration.

D. An application for licensure shall be made for any of the approved methods contained in ~~R9-14-607~~ R9-14-609 and listed in ~~R9-14-608~~ R9-14-610 through ~~R9-14-611~~ R9-14-613 for compliance testing required by ADEQ; the Clean Air Act; the Clean Water Act; the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Con-

servation and Recovery Act; ~~or~~ the Safe Drinking Water Act; or the Toxic Substance Control Act.

E. The Department shall notify the laboratory director of any ~~deficiencies~~ omissions or additional information needed in the application and payment of fees within 15 working days from the receipt of the application and fees. ~~If~~ Within 15 working days from when the Department determines that the application is complete and proper fees are submitted, the Department shall schedule a laboratory inspection or proficiency evaluation audit or both. After an application is determined to be complete and proper fees have been paid, the laboratory inspection shall not occur later than 30 days for an in-state lab and 60 days for an out-of-state lab, unless the Department and applicant mutually agree to a delay in the inspection date.

F. The Department may grant a temporary license for all sample matrices except drinking water, to an out of state laboratory, before an on-site inspection occurs, if the laboratory has submitted a complete application, paid all applicable fees, provided successful proficiency evaluation results after from current EPA studies or an approved 3rd party, and provided current certification information for comparable testing being requested from another state certification program.

~~F~~ G. The Department shall provide the laboratory director with a written report of findings within 30 working days from the completion of any inspection, investigation or ~~performance~~ proficiency evaluation audit.

~~G~~ H. ~~During the first twelve months after the effective date of this Article, if a~~ A laboratory seeking initial licensure in Arizona that cannot demonstrate compliance with A.R.S. §§ 36-495.01 through 36-495.08 and this Article, ~~the laboratory~~ shall submit within 15 working days from the date the laboratory receives the written report of findings from the Department, a written corrective action plan to the Department with corrective action and completion dates acceptable to the Department. Laboratories seeking initial licensure shall have no more than ~~three months~~ 75 working days from the date the laboratory receives the written ~~notification~~ report of findings from the Department to correct deficiencies listed in the Department's inspection or investigation report. ~~After the first year from the effective date of this Article, a laboratory that cannot demonstrate compliance with this Article shall have no more than 15 working days from the date the laboratory receives written notification by the Department to submit a written plan to the Department to correct deficiencies listed in the inspection or investigation report. The written plan shall contain corrective action completion dates acceptable to the Department.~~

I. Within 30 working days of receipt of the laboratory's plan of corrective action, the Department shall provide the laboratory with a written approval or disapproval.

1. If the laboratory's plan of corrective action was disapproved by the Department, the laboratory shall submit a new corrective action plan for the items which the Department has disapproved, within 15 working days from receipt of the Department's written disapproval.
2. Within 15 working days of receipt of the laboratory's revised corrective action plan, the Department shall provide the laboratory with a written approval or disapproval of the revised plan.

J. This Section shall apply to a laboratory not currently licensed in Arizona until either of the following occurs:

1. The laboratory owner or operator is issued a laboratory license pursuant to this Article, or
2. The laboratory owner or operator is notified of the Department's intent to deny a laboratory license.

K. Notification by the Department of issuance or denial of a license shall not exceed 180 working days for in-state labs, and 200 working days for out-of-state labs from the date that the Department determined that the application was complete and proper fees were submitted.

~~R9-14-604.~~ Licensure Renewal Process

A. To renew an existing license, a laboratory must submit to the Department, at least 30 days prior to the expiration of the current license, a complete application, and payment of all applicable fees as prescribed in R9-14-606.

B. The Department shall notify the laboratory director of any deficiency in the application and payment of fees within 15 working days from the receipt of the application and fees. If the application is complete and proper fees are submitted, the department shall renew a laboratory license, unless the director determines pursuant to A.R.S. § 36-495.09 that grounds exist to deny the license.

C. The Department may conduct a laboratory inspection or proficiency evaluation audit, or both, during the term of the licensure period.

D. The Department may grant a temporary license to a laboratory with an existing laboratory license, if the laboratory is moving to a new location. The Department shall not grant the temporary license to such laboratories if the owner or director is also changed.

E. A laboratory with a renewed license that cannot demonstrate compliance with this article, shall submit to the Department within 30 working days from the date the laboratory receives the written report of findings, a written plan to correct deficiencies listed in the written report of findings with corrective action and completion dates acceptable to the Department.

F. The Department shall provide the laboratory with a written response within 30 working days upon receipt of the laboratory's plan of corrective action to the Department's written report of findings.

~~R9-14-604.~~ R9-14-605. Provisional Licensure

A. The Department may issue a provisional license when its investigation, inspection, or proficiency evaluation audit identifies deficiencies, but the number and nature of deficiencies do not pose a risk to public health, safety or the environment.

~~C.~~ B. The Department may issue a provisional license for any of the following reasons:

1. The laboratory does not adhere to the applicable references in R9-14-609 or the requirements for facilities, equipment, reagent quality control practices, or approved methods appropriate to the sample matrix as listed in ~~R9-14-608~~ R9-14-610 through ~~R9-14-611~~ R9-14-613;
2. The laboratory fails to participate in a ~~performance~~ proficiency evaluation audit and submit results within the acceptance limits or the time frames established by the ~~performance~~ proficiency evaluation service;
3. Two ~~of any three~~ consecutive ~~performance~~ proficiency evaluation audit reports have the same parameter deemed outside acceptance limits ~~unsatisfactory or unacceptable~~ by a ~~performance~~ proficiency evaluation service; or
4. The laboratory fails to submit a written corrective action report to the Department within ~~15~~ 30 working days of the receipt of ~~performance~~ proficiency evaluation audit results that are deemed outside acceptable limits ~~unsatisfactory or unacceptable~~.

~~E.~~ C. The department shall issue an amended certified list of parameters for the provisional license. The licensee shall return its ~~regular~~ license to the Department within 10 working days from the date of receipt of written notification that the Department ~~issues~~ issued a provisional license.

~~B.~~ D. A provisional license shall be valid for a set period established by the Department, not to exceed the expiration date of the laboratory's suspended ~~regular~~ license.

~~D.~~ E. A laboratory with a provisional license may ~~receive a regular~~ renew its license provided that it applies for renewal ~~a regular license~~ at least 30 working days prior to the expiration of its provisional license. ~~and provided that the laboratory demonstrates to the Department that the deficiencies which produced the suspension of the regular license have been corrected.~~ At such time, the Department shall issue to the laboratory a license, unless the director determines pursuant to A.R.S. § 36-495.09 that grounds exist to deny the license.

~~R9-14-605.~~ R9-14-606. Licensure fees

A. Each laboratory applying for a license shall pay to the Department, at the time of application, a nonrefundable application fee, in U.S. dollars, dependent upon the following laboratory license classifications:

1. ~~Limited~~ Level I - A license for compliance testing is limited to ~~the drinking water and wastewater matrix and testing parameters are limited to no more than microbiology, pH, biochemical oxygen demand, turbidity, chlorine and residues.~~ 1 to 9 total paremeters in any combination of sample matrices. ~~$1,087.00~~ $1,000.00
2. Level ~~I~~ II - A license for compliance testing is limited to ~~the drinking water and wastewater matrix and testing parameters are limited to no more than microbiology, pH, biochemical oxygen demand, turbidity, chlorine, residues and up to any five additional approved testing methods.~~ 10 to 17 total parameters in any combination of sample matrices. ~~$1,359.00~~ $1,270.00
3. Level ~~II~~ III - A license for compliance testing ~~is unlimited by matrix and compliance testing methods.~~ for greater than 17 total parameters in any combination of sample matrices. ~~$1,495.00~~ $1,400.00

B. Multiple laboratories applying under the single license option shall pay to the Department, at the time of application, a nonrefundable application fee for each noncontiguous laboratory, as outlined in R9-14-603, dependent upon the following laboratory license classifications:

1. ~~Limited~~ Level I - ~~$952.00~~ $860.00
2. Level ~~I~~ II - ~~$1,223.00~~ $1,130.00
3. Level ~~II~~ III - ~~$1,359.00~~ $1,270.00

~~C. One year after the effective date of this Article, a laboratory that seeks to renew an existing regular license shall pay a nonrefundable application fee dependent upon the laboratory classifications of subsections (A) and (B) of this Section minus $90.00.~~

~~D.~~ C. In addition to the licensure application fee, the applicant shall pay to the Department a nonrefundable fee for the approved methods and associated instrumentation for which the laboratory seeks licensure. The Department shall calculate and collect the fee prior to the issuance of a license for the approved methods and associated instrumentation as follows:

	Fee
1. MICROBIOLOGY TESTING	
a. Total coliform:	
Most Probable Number	$136.00
Membrane filtration	136.00
MMO-MUG (Colilert or Colisure only)	91.00
Presence-Absence	136.00
b. Fecal coliform:	
Most Probable Number	136.00
Membrane filtration	136.00
c. Fecal streptococcus	
Most Probable Number	136.00
Membrane filtration	136.00
Salmonella	136.00
Heterotrophic plate count	91.00
Any one approved method in each group for total coliform, fecal coliform, fecal streptococcus, Samonella, and heterotrophic plate count.	$408.00
Any combination of approved methods for total coliform, fecal coliform, fecal streptococcus, Samonella, and heterotrophic plate count.	$725.00
Viruses	227.00
Parasites	227.00
2. BIOASSAY	
Any combination of methods for estimating the chronic and acute toxicity of effluents and waters to fresh water organisms.	$544.00
3. DEMAND	
Biochemical Oxygen Demand	$91.00
Chemical Oxygen Demand	91.00
4. INORGANIC CHEMISTRY - METALS	
a. Flame atomic absorption (FAA) approved methods.	
Each metal for which the laboratory applies using any single FAA-approved method from any single approved method reference.	$15.00 each, up to a maximum of $295.00

Each metal for which the laboratory applies using any combination of FAA-approved methods from any combination of approved method references.	$24.00 each, up to a maximum of $468.00
b. Electrothermal graphite furnace atomic absorption (GFAA) approved methods.	
Each metal for which the laboratory applies using any single GFAA-approved method from any single approved method reference.	$15.00 each, up to a maximum of $272.00
Each metal for which the laboratory applies using any combination of GFAA-approved methods from any combination of approved method references.	$24.00 each, up to a maximum of $435.00
c. Inductively Coupled Plasma (ICP) emission spectrometer approved methods.	
Each metal for which the laboratory applies using any single ICP-approved method from any single approved method reference.	$12.00 each, up to a maximum of $260.00
Each metal for which the laboratory applies using any combination of ICP-approved methods from any combination of approved method references.	$18.00 each, up to a maximum of $390.00
d. Inductively Coupled Plasma/Mass Spectrometer (ICP/MS) approved methods)	
Each metal for which the laboratory applies using any ICP/MS approved method reference	$18.00 each, up to a maximum of $390.00
e. Colorimetric metal testing approved methods.	
Each colorimetric approved method for which the laboratory applies.	$45.00
f. Mercury cold vapor approved methods.	
Any single mercury cold vapor approved method from any single approved method reference for which the laboratory applies.	$91.00
Any combination of mercury cold vapor approved methods from any combination of approved method references for which the laboratory applies.	$136.00
g. Metals by hydride generation approved methods.	
Each ~~All~~ hydride metals for any ~~single~~ approved method from any ~~single~~ approved method reference for which the laboratory applies.	$45.00 each, up to a maximum of $68.00
~~Any combination of metals by hydride generation approved methods from any combination of approved method references for which the laboratory applies.~~	~~$68.00~~
5. INORGANIC CHEMISTRY - NONMETALS	
a. Nonmetals Group IA	
Total Alkalinity	$23.00
Chloride	23.00
Chlorine	23.00
Chlorine dioxide	23.00
Color	23.00
Hardness (as $CaCO_3$)	23.00
Hydrogen ion (pH)	23.00
Ozone	23.00
Specific conductance	23.00
Total Dissolved Solids (Filterable Residue)	23.00
Turbidity	23.00
b. Nonmetals Group IB	
Nitrate	45.00
Sulfate	45.00
Fluoride	45.00
Sodium Azide	45.00
Sodium/Potassium Perchlorate	45.00
c. Maximum for any combination of Nonmetals	
Group IA and IB for the first approved method for which the laboratory applies.	$255.00
d. Each additional Nonmetals Group IA approved method for which the laboratory applies.	$11.00
e. Each additional Nonmetals Group IB approved method for which the laboratory applies.	$23.00
f. Nonmetals Group IIA	
Acidity	$23.00
Total Hardness	23.00
Surfactants	23.00
Total Residue	23.00
Nonfilterable Residue	23.00
Settleable Residue	23.00
Volatile Residue	23.00
g. Nonmetals Group IIB	

Ammonia	$45.00
Bromide	45.00
Total Kjeldahl Nitrogen	45.00
Nitrite	45.00
Orthophosphate	45.00
Total Phosphorus	45.00
h. Maximum for any combination of Nonmetals Group IIA and IIB for the first approved method for which the laboratory applies.	$340.00
i. Each additional Nonmetals Group IIA approved method for which the laboratory applies.	$11.00
j. Each additional Nonmetals Group IIB approved method for which the laboratory applies.	$23.00
k. Ion chromatograph approved methods. Each ion for which the laboratory applies using any IC approved method from any approved method reference.	$20.00 each, up to a maximum of $200.00

6. MAJOR ANALYTICAL CHEMISTRY INSTRUMENTS

Each Gas Chromatograph (GC) instrument.	$45.00
Each Gas Chromatograph/Mass Spectrometer (GC/MS) instrument.	$91.00
Each Atomic Absorption Spectrometer instrument.	$45.00
Each Inductively Coupled Plasma Atomic Emission Spectrometer instrument.	$45.00
Each High Performance Liquid Chromatograph instrument.	$45.00
Each Inductively Coupled Plasma Atomic Emission Spectrometer/Mass Spectrometer instrument.	$91.00
Each High Performance Liquid Chromatograph/Mass Spectrometer instrument	$91.00
Each Ion Chromatograph instrument	$45.00
Each Total Organic Halide (TOX) instrument	$45.00
Each Transmission Electron Microscope (TEM)	$182.00

7. VOLATILE ORGANIC CHEMISTRY

Purgeable organic GC and GC/MS approved methods.	Single Method	Combination
Volatile Organics by GC by EPA Methods ~~502.1,~~ 502.2, ~~503.1~~ 8021A	$91.00	~~$91.00~~ $136.00
Purgeable Halocarbons by EPA Methods 601 and ~~8010~~ 8010B	45.00	68.00
Total Trihalomethanes (TTHM) 502.2, 524.2, 551	45.00	91.00
Maximum Trihalomethane Potential (MTP) 510.1		45.00
Purgeable Aromatics by EPA Methods 602, ~~8015~~ 8015A, 8015M, ~~8020~~ 8020A	45.00	91.00
Fuel Class Hydrocarbons by BLS Method 191	45.00	
~~Purgeable Halocarbons by EPA Methods 501.1, 501.2, 510.1, Standard Method 6232 B and D~~	~~45.00~~	~~68.00~~
Halogenated and Aromatic Volatiles by EPA Method ~~8021~~ 8021A	91.00	
Acrolein, Acrylonitrile, Acetonitrile by EPA Methods 603, ~~8030~~ 8031, 8032, 8033, 8316	45.00	68.00
Purgeables by GC/MS by EPA Methods ~~524.1,~~ 524.2, 624, 1624, ~~8240, 8260~~ 8260A	91.00	181.00

8. SEMIVOLATILE ORGANIC CHEMISTRY

Semivolatile organic GC approved methods.	Single Method	Combination
Aniline and Derivatives by EPA Method 8131	$69.00	
Benzidines by EPA Method 605	$45.00	
Benzidines and Nitrogen Pesticides by EPA 553	$69.00	
Bis(2-chloroethyl)ehter Hydrolysis Products) by EPA 8430	$69.00	
Carbamates/Urea Pesticides by EPA Methods 531.1, 632, 8318	69.00	102.00
Carbonyl Compounds by EPA 8315	$69.00	
Chlorinated Herbicides by EPA Methods ~~515.1,~~ 515.2, 555, ~~8150~~, 8151, Standard Methods 6640-B, ASTM D-3478-85	69.00	102.00
Chlorinated Hydrocarbons by EPA Methods 612, ~~8120~~ 8121	69.00	102.00
1,2-Dibromoethane and 1,2-Dibromo-3-Chloropropane by EPA Methods ~~504,~~ 504.1, 551, 8011, BLS Method 127	69.00	102.00
Diquat and Paraquat by EPA Method 549.1	69.00	
Endothall by EPA Method 548.1	69.00	
Glyphosate by EPA Method 547, 6651	69.00	102.00
Haloacetic Acetic Acids by EPA	69.00	102.00
Method 552 and 552.1 Haloethers by EPA Methods 611, ~~8110~~, 8111	69.00	102.00
Nitroaromatics and Cyclic Ketones by EPA Methods 609, ~~8090~~, 8091, 8330	69.00	102.00
Nitroglycerine by EPA 8332	69.00	
Nitrosamines by EPA Methods 607, 8070, 8330	69.00	102.00
Nonvolatiles by HPLC/MS by EPA Methods 8321, 8325	91.00	136.00

Organochlorine Pesticides/Polychlorinated Biphenyls by EPA Methods 505, 508, 508.1, 608, ~~8080,~~ 8081, 8082 Standard Method 6630C, ASTM Method D3086-85, EPA-600/4-81-045	91.00	136.00
Organophosphorus and Nitrogen Pesticides by EPA Methods 507, 614, 8140, ~~8141~~ 8141A	69.00	102.00
Phenols by EPA Methods 604, ~~8040,~~ 8041A	69.00	102.00
Polynuclear Aromatic Hydrocarbons by EPA Methods 550, 550.1, 610, 8100, 8310	69.00	102.00
Polynuclear Aromatic Hydrocarbons by EPA Method 8310	69.00	
Phthalate Esters by EPA Methods 606, ~~8060,~~ 8061, 506	69.00	102.00
Semivolatile organic GC/MS approved methods by EPA Methods ~~525,~~ 525.2, 625, 1625, ~~8250, 8270,~~ 8270B	91.00	182.00
Semivolatile organics GC/FT-IR by EPA 8410	69.00	
Tetrazine by EPA 8331	69.00	
Triazine Pesticides by EPA Method 619	69.00	
Dioxin and Furans by EPA Methods 1613, 613, 8280, 8290	272.00	362.00
New or Director approved GC methods not listed above.	69.00	
New or Director approved GC/MS methods not listed above.	91.00	

9. RADIOCHEMICALS

Fee for radiochemistry testing	$270.00
Each radioisotope counting instrument	$45.00
Gross Alpha Activity	91.00
Gross Beta Activity	91.00
Radium-226	91.00
Radium-228	91.00
Cesium-134	91.00
Iodine-131	91.00
Polonium-210	91.00
Radon-222	91.00
Strontium-89	91.00
Strontium-90	91.00
Tritium	91.00
Uranium	91.00
Photon Emitters, each method	91.00
Each radiochemical approved method when the laboratory applies for five or more.	$73.00

10. HAZARDOUS CHARACTERISTIC TESTING APPROVED METHODS

Corrosivity toward steel	$38.00
Ignitability	38.00
Reactivity	38.00
Extraction Procedure Toxicity Characteristic*	$91.00
Toxicity Characteristic Leaching Procedure*	$181.00
Synthetic Characteristic Leaching Procedure*	$181.00

* (The fee for these procedures are for the sample extraction and leaching processes only.)

11. MISCELLANEOUS COMPLIANCE TESTING

Total Organic Carbon	$45.00
Total Organic Halides	45.00
Purgeable Organic Halides	68.00
Extractable Organic Halides	68.00
Ethylene Glycol	91.00
Total Petroleum Hydrocarbon	91.00
Oil and Grease	45.00
Cyanide; total, direct and amenable to chlorination	91.00
Total Phenols	91.00
~~Calcium~~	~~23.00~~
Lead in paint	23.00
Magnesium - gravimetric	23.00
Sulfide	45.00
Sulfite	45.00
Silica	45.00
Bulk Asbestos Identification	136.00

White Phosphorous	69.00
Immunossay Tests (each)	45.00
Compatibility Test for Wastes and Membrane Liners	20.00
Cation-Exchange Capacity of Soil	20.00
New or Director approved methods not currently listed	20.00
Asbestos fiber counting by:	
Light microscopy	136.00
Electron microscopy	227.00
Electron Microscopy with X-ray Diffraction	300.00
12. AMBIENT AIR COMPLIANCE TESTING APPROVED METHODS	
Carbon Monoxide	$181.00
Hydrocarbons	181.00
Lead	181.00
Nitrogen Dioxide	181.00
Ozone	181.00
Particulate Matter	181.00
Sulfur Oxides	181.00
Maximum for ambient air testing.	$952.00
13. AIR - STATIONARY SOURCES AND STACK TESTING APPROVED METHODS	
Carbon Dioxide/Oxygen/Excess Air	181.00
Carbon Monoxide	181.00
Carbonyl Sulfide/Carbon Dioxide	181.00
Fluoride	181.00
Gaseous Organic Compounds	181.00
Hydrogen Sulfide	181.00
Inorganic Lead	181.00
Moisture Content	181.00
Nitrogen Oxide	181.00
Particulate Emissions:	
Asphalt Processing	91.00
Fiberglass Insulation	91.00
Nonsulfate	91.00
Nonsulfuric Acid	91.00
Pressure Filters	91.00
Stationary Sources	91.00
Sulfur Dioxide	91.00
Wood Heaters	91.00
Particulate emissions maximum	544.00
Sulfur and Total Reduced Sulfur	181.00
Sulfur Dioxide	181.00
Sulfuric Acid Mist	181.00
Volatile Matter/Density/Solids/Water	181.00
Vapor Tightness - Gasoline Delivery Tank	181.00
Volatile Organic Compounds	181.00
Wood Heaters Certification and Burn Rates	181.00
Stationary Sources and Stack Testing maximum	$2,720.00
14. ARIZONA EMISSION TEST APPROVED METHODS	
Particulate Emissions:	
Sulfuric Acid Mist/ Sulfur Oxides	$181.00
Dry Matter	181.00
15. HAZARDOUS AIR POLLUTANT APPROVED METHODS FOR NATIONAL EMISSION STANDARDS	
Arsenic	$181.00
Beryllium	181.00
Mercury	181.00
Polonium-210	181.00
Vinyl Chloride	181.00
Maximum for hazardous air pollutants	$680.00

~~E.~~D. The laboratory shall submit to the Department a nonrefundable handling fee of $78.00 for each proficiency evaluation audit and the actual cost for proficiency evaluation audit materials, if applicable.

~~F.~~E. Except for a change in the laboratory name, directorship, ownership or appointment of an acting laboratory director, a laboratory which requests the Department to amend or modify its license before the license's expiration date shall pay all applicable licensure fees and the actual expense incurred by the Department for such amendment or modification. Laboratories shall have 3 free modifications during a licensure period. Each additional modification shall be charged at a rate of $10.00 per parameter for processing.

~~G. An environmental laboratory which has been issued a license prior to the effective date of this Article with at least 90 calendar days remaining until the expiration of the license and which does not apply for any additional testing methods or parameters beyond its existing license shall pay prorated fees. The prorated fees shall be calculated by the following equation:~~

~~Total All Fees x Calendar Days Remaining On License = Prorated Fee~~
~~365~~

F. Each out-of-state licensed laboratory shall pay a $75.00 fee if the laboratory chooses to receive technical updates from the Department by fax.

~~R9-14-606~~ R9-14-607.~~Performance~~ Proficiency Evaluation

A. Each laboratory shall demonstrate proficiency as determined by the Department or by the proficiency evaluation service through ~~performance~~ proficiency evaluation audits provided by the Principal State Laboratory System or a ~~performance~~ proficiency evaluation ~~audit service~~ provider approved by the Department, if available. The laboratory shall analyze and report ~~performance~~ proficiency evaluation audit samples for the testing program, category of testing, parameter, and approved methods for which an initial license or renewal license has been requested. ~~Performance~~ Proficiency evaluation parameters reported by the laboratory for subsections (B) through (G) shall be within acceptance limits established by the ~~performance~~ proficiency evaluation service or in addition for subsection (B) as required by 40 CFR 141.24, f.17.

B. To maintain licensure for the approved methods listed for chemistry in ~~R9-14-608~~ R9-14-609, the laboratory shall analyze and report results for EPA's water supply study (WS) audit program and the Principal State Laboratory System ~~performance~~ proficiency evaluation audit, if available, or from a proficiency evaluation service accepted by the Department.

C. To maintain licensure for the approved methods listed for chemistry in ~~R9-14-609~~ R9-14-610 and ~~R9-14-610~~ R9-14-611, the laboratory shall analyze and report results for EPA's water pollution (WP) ~~performance~~ proficiency evaluation audit program and the Principal State Laboratory System ~~performance~~ proficiency evaluation audit, if available, or from a proficiency evaluation service accepted by the Department.

D. To maintain licensure for the approved methods listed for microbiology in ~~R9-14-608~~ R9-14-609 through ~~R9-14-610~~ R9-14-611, the laboratory shall analyze and report results for EPA's ~~performance~~ proficiency evaluation audit program or the Principal State LaboratorySystem ~~performance~~ proficiency evaluation audit, if available, or from a proficiency evaluation service accepted by the Department.

E. To maintain licensure for the approved methods listed for radiochemicals in ~~R9-14-608~~ R9-14-609 through ~~R9-14-611~~ R9-14-611, the laboratory shall analyze and report results for EPA's radiation assessment ~~performance~~ proficiency evaluation audit and the Intercomparison studies audit programs.

F. To maintain licensure for the approved methods listed in ~~R9-14-611~~ R9-14-612, the laboratory shall analyze and report results for the Principal State Laboratory System ~~performance~~ proficiency evaluation audit or EPA ~~performance~~ proficiency evaluation audit, if available, or from a proficiency evaluation service accepted by the Department.

G. The Department may submit blind audit samples to a licensed laboratory.

H. The laboratory shall test all ~~performance~~ proficiency evaluation audit samples within holding times required by the approved method for each of the audit parameters and report the results to the ~~Department~~ proficiency evaluation provider. Principal State Laboratory System chemistry ~~performance~~ proficiency evaluation audit sample results shall be reported to the Department within 60 calendar days from the time of receipt. Principal State Laboratory System microbiology ~~performance~~ proficiency evaluation audit sample results shall be reported to the Department within 14 calendar days from the time of receipt.

I. The Department shall issue a report of Principal State Laboratory System ~~performance~~ proficiency evaluation audit findings to the laboratory within 45 working days of the deadline date for results of the ~~performance~~ proficiency evaluation audit.

~~R9-14-607~~ R9-14-608.Approved Methods and References

A. All compliance samples shall be tested by approved methods and validated by the applicable quality assurance listed in ~~R9-14-608~~ the following Key References; or in R9-14-609 through ~~R9-14-611~~ R9-14-612 as appropriate to the sample matrix, ~~or~~ and/or as specifically required by ADEQ or EPA; unless otherwise specified in the license criteria issued to the laboratory. The latest promulgated revision of each method shall be used, unless otherwise stated in a permit. In the absence of any prior notification by the Department, the laboratory shall have 90 days from the date of promulgation to comply with this rule.

B. If approved methods are not available for a particular testing program, category of testing, parameter, or new or revised EPA methods needed for compliance purposes, promulgated, recommended, or locally developed procedures may be used if these procedures have been reviewed and approved by the Director based upon the criteria in this section. Any person may submit a petition to the Department requesting approval of an analytical method. Petitions to approve an analytical method shall contain:

1. Name, telephone number, and address of the person submitting the petition;
2. Identification of the pollutant or parameter for which approval of an analytical method is being requested;
3. Written justification for using the proposed analytical method including a detailed description of the proposed analytical method, together with references to published or other studies confirming the general applicability of the proposed analytical method to the type of sample matrix for which its use ~~in~~ is intended; and
4. Data which demonstrates the performance of the proposed analytical method in terms of accuracy, precision, reliability, ruggedness, ease of use and ability to achieve a detection limit appropriate for the ~~methods~~ proposed use of the method.
5. The Department may require that the method be tested in parallel with a reference laboratory for precision and accuracy.

~~C.~~6. ~~A proposed analytical method will be approved when the~~ The Department may approve a proposed analytical method if it determines that the criteria listed in subsection (B)(4) of this Section have been demonstrated.

~~D~~ C. The following references identified by a capital letter under the heading "KEY" contain the approved methods listed by parameter in ~~R9-14-608~~ R9-14-609 through ~~R9-14-611~~ R9-14-612 and are incorporated herein by reference and on file with the Office of the Secretary of State and with the Department. ~~The "KEY" references do not include any future editions.~~

KEY	REFERENCE
A	"Methods for Chemical Analysis of Water and Wastes," EPA 600/4-79-020, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, revised March 1983.
A1	"Methods for the Determination of Metals in Environmental Samples - Supplement I", EPA 600/R-94-111, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, May 1994.
A2	"Methods for the Determination of Inorganic Substances in Environmental Samples", EPA-600/R-93-100, August 1993.
B	"Interim Radiochemical Methodology for Drinking Water," EPA 600/4-75-008, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, revised March 1976.
C	"Standard Methods for the Examination of Water and Wastewater," APHA-AWWA-WPCF, Washington, D.C., ~~17th~~ 19th Edition, ~~1989~~ 1995.
C1	"Hach Handbook of Water Analysis," 1979, Hach Chemical Company, Loveland, CO 80537.
C2	"Iron, 1, 10-Phenanthroline Method," Method 8008, 1980, Hach Chemical Company, P.O. Box 389, Loveland, CO 80537.
D	"Methods for the Determination of Organic Compounds in Drinking Water," EPA/600/4-88/039, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, ~~December 1988~~ July 1991.
D1	"Methods for the Determination of Organic Compounds in Drinking Water, Supplement I," EPA/600/R-92/129, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, June 1991.
D2	"Methods for the Determination of Orgnaic Compounds in Drinking Water, Supplement II," EPA/600/R-92/129, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, August 1992.
D3	"Manual for the Certification of Laboratories Analyzing Drinking Water, Third Edition," EPA 570/9-90/008, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, April 1990, and Updated September 1992.
D4	"The Determination of the Maximum Total Trihalomethane Potential," Method 510.1, EMSL, EPA, Cincinnati, Ohio 45268.
D5	"Tetra-through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS", EPA-821-B-94-005, October 1994.
~~E~~	~~"Guidelines Establishing Test Procedures for the Analysis of Pollutants," 40 CFR 136, 1990.~~ "Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater," 40 CFR 136, 1995.
E1	"Appendix C to Part 136 - Inductively Coupled Plasma - Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes, Method 200.7," 40 CFR 136, 1996.
F	"Test Methods for Evaluating Solid Waste," EPA SW-846, 3rd Edition, EPA, Office of Solid Waste and Emergency Response, Washington, D.C., September 1986, and updated ~~November 1990~~ September 1994.
F1	"PCB's in Transformer Oil/Waste Oil," EPA 600/4-81-045, September 1982.
G	"National Institute for Occupational Safety and Health Manual of Analytical Methods," U.S. Department of Health and Human Services, Cincinnati, Ohio, 3rd Edition, February 1984, updated May 1989.
H	"Interim Method for Determination of Asbestos in Bulk Insulation Samples," EPA 600/4-82-020, EPA, Environmental Monitoring Systems Laboratory, Research Triangle Park, North Carolina, March 1982.
H1	"Analytical Method for Determination of Asbestos Fibers in Water," EPA/600/4-83-043, EPA, Environmental Research Laboratory, Athens, GA, September 1983.
I	"Annual Book of ASTM Standards," Volume 11.01 and 11.02, Water and Environmental Technology, American Society for Testing and Materials, Philadelphia, Pennsylvania, ~~1990~~ 1994.
J	"Methods for Determination of Inorganic Substances in Water and Fluvial Sediments", U.S. Department of Interior, U.S. Geological Survey, Washington, D.C., Third Edition 1989.
K	Test Methods for the Determination of: "Ethylene Dibromide and Dibromochloropropane in Water," BLS-127, revised June 1990; "TPH in Soil," ~~BLS-181~~ 418.1AZ, revised August 1990; "Ethylene Glycol in "Wastewater," BLS-188, revised ~~April 1990~~ September 7, 1994; and "Quantitation of Fuel Class Hydrocarbons by GC," BLS-191, issued September 1991. Arizona Department of Health Services, Division of State Laboratory Services, Phoenix, Arizona.
L	"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," EPA 600/4-80-032, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, August 1980.
M	"Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms," ~~EPA 600/4-85/013~~ EPA/600/4-90/027F, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, ~~March 1985~~ August 1993.
M1	"Manual for the Evaluation of Laboratories Performing Aquatic Toxicity Tests," EPA/600/4-90/031, January 1991.
M2	"Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and

Chronic Toxicity, EPA/600/R-92/080, EPA Office of Research and Development, Washington, D.C. September 1993.

M3 "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, EPA/600/R-92/081, EPA Office of Research and Development, Washington, D.C. September 1993.

N "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA 600/4-89-001 and EPA 600/4-89-001a, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, 1989 and Supplement PB90-14564, September 1989.

O "National Primary and Secondary Ambient Air Quality Standards," 40 CFR 50, Subchapter C, 1990.

P "USEPA Manual of Methods for Virology," EPA 600/4-84/013, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, February 1984.

Q "Standards of Performance For New Stationary Sources, Appendix A - Test Methods," 40 CFR 60, Appendix A, ~~1990~~ 1993.

R "Arizona Testing Manual For Air Pollutant Emissions," Arizona Office of Air Quality, Phoenix, Arizona, May 15, 1989, Revision E.

S "National Emission Standards for Hazardous Air Pollutants, Appendix B - Test Methods and Appendix C - Quality Assurance Procedures," 40 CFR 61, Appendix B and C, ~~1990~~ 1994.

~~T Edberg, S.C., et al., "National Field Evaluation of a Defined Substrate Method for the Simultaneous Detection of Total Coliforms and *Escherichia coli* from Drinking Water: Comparison with Presence-Absence Techniques," Applied and Environmental Microbiology, Vol. 55, No. 4, April 1989, pp. 1003-1008.~~

Broadway, et. al., "Final Report of Equivalency Testing for Colisure," Montana State University, Bozeman, MT, September 29, 1992.

U "National Primary Drinking Water Regulations," 40 CFR 141, Subpart C, Appendix C, ~~1990~~ 1994.

V "The Determination of Inorganic Anions in Water by Ion Chromatography," EPA 600/4-84-017, EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, ~~March 1984~~ August 1991.

W Environmental Measurements Laboratory (EML) Procedures Manual, HASL-300, Vol. 1, U.S. Department of Energy, 27th Edition, 1990, New York, NY.

X Radiochemistry Procedures Manual, Eastern Environmental Radiation Facility (EERF) EPA-Montgomery, EPA 520/5-84/006, Montgomery, AL., August 1984.

Y Radiochemical Analytical Procedures for Analysis of Environmental Samples, EPA, Environmental Monitoring and Support Laboratory (EMSL). EMSL-LVO539-17, Las Vegas, NV., March 1979.

Z "Test Methods for *Escherichia coli* in Drinking Water, EC Medium with Mug Tube Procedure, Nutrient Agar with Mug Membrane Filter Procedure," EPA 600/4-91/016, EPA, Environmental Monitoring Systems Laboratory, Cincinnati, Ohio, July 1991.

~~R9-14-608.~~ R9-14-609.Drinking Water Sample Matrix

Every laboratory which conducts compliance testing under this rule shall follow the guidelines in reference D3, excluding laboratory personnel educational and experience requirements, and use the following approved methods, unless a method falls under the alternate specifications pursuant to R9-14-608(A) or (B). To locate the source of the approved method, cross reference the capital letter listed under "KEY" to the reference designation listed in ~~R9-14-607~~ R9-14-608. When the identification and measurement of radionuclides other than those listed in subsection (E)(1) through (11) of this Section is required, Key reference "Z" is to be used, except in cases where alternative methods have been requested or approved in accordance with ~~R9-14-607~~ R9-14-608(A) through (C).

A.	Microbiology:	KEY	APPROVED METHOD
	1. Total Coliforms:		
	Multiple Tube	C	9221B
	Membrane Filter	C	9222B
	~~Autoanalysis Colilert~~	~~T~~	~~Field Evaluation~~
	Colilert (OMPG-MUG)	C	9223B
	Colisure	T	Broadway et al.
	Presence - Absence	C	~~9221E~~ 9221D
	2. Heterotrophic Plate Count	C	9215B
	3. *Escherichia coli*	Z	Tube Procedure
			Membrane Filter Procedure
	4. Fecal coliform	C	~~9221C,~~ 9221E, 9222D
B.	Sample preparation for metals:	KEY	APPROVED METHOD
	1. Preliminary Filtration	C	3030B
	2. Acid Extractable Metals	C	3030C
	3. Acid Digestion:		
	Nitric Acid	C	3030E
	Nitric Acid/Hydrochloric Acid	C	3030F
	Nitric Acid/Sulfuric Acid	C	3030G

Nitric Acid/Perchloric Acid	C	3030H
Nitric Acid/Perchloric Acid/Hydrofluoric Acid	C	3030I
4. Dry Ashing	C	3030J
5. Microwave Assisted Digestion	C	3030K
C. Inorganic chemical and physical characteristics:	KEY	APPROVED METHOD
1. Alkalinity	~~A~~	~~310.1, 310.2~~
	C	2320~~B~~
	I	~~D1067-88B~~ D1067-92B
2. Aluminum	A1	220.7, 200.8, 200.9
	C	3120B, 3113B, 3111D
	I	I-3051-85
3. Antimony	A1	200.8, 200.9
	C	3113B
	I	D3697-92
~~2.~~4. Arsenic	~~A~~	~~200.7, 206.2, 206.3, 206.4, 206.5~~
	A1	200.7, 200.8, 200.9
	C	3113B, ~~3500-As B, C, E~~ 3114B, 3120B
	I	~~D2972-88A, D2972-88B D2972-93B, D2972-93C~~
	J	~~I-1062-78~~ I-1062-85
~~3.~~5. Barium	~~A~~	~~200.7, 208.1, 208.2~~
	A1	200.7, 200.8
	C	~~3111,~~ 3111D, 3113B, ~~3500-Ba B, C~~ 3120B
6. Beryllium	A1	200.7, 200.8, 200.9
	C	3113B, 3120B
	I	D3645-93B
~~4.~~7. Cadmium	~~A~~	~~200.7, 213.1, 213.2~~
	A1	200.7, 200.8, 200.9
	C	~~3111~~, 3113B, ~~3500-Cd B, C~~
	~~I~~	~~D3557-90A, D3557-90B~~
~~5.~~8. Calcium	~~A~~	~~200.7, 215.1, 215.2~~
	A1	200.7
	C	~~3111~~, 3111B, 3120B, 3500-Ca ~~B, C,~~ D
	I	~~D1126-86, D511-88~~ D511-93 A, B
~~6.~~9. Chloride	~~A~~	~~325.1, 325.2, 325.3~~
	A2	300.0
	C	4500-Cl ~~B, C, E, F~~ D
	~~V~~	~~300.0~~
~~7.~~10. Chlorine, Total Residual	~~A~~ A2	330.1, 330.2, 330.3, 330.4, 330.5
	C	4500-Cl ~~B, C~~, D, E, F, G, H
11. Chlorine Dioxide	C	4500-ClO2 C, D, E
~~8.~~12. Chromium, Total	~~A~~	~~200.7, 218.1, 218.2, 218.3~~
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3113B, ~~3500-Cr B, C,~~ 3120 ~~3120B~~
	~~I~~	~~D1687-86B~~
~~9.~~13. Color	~~A~~	~~110.3~~
	C	2120 B, C, D
	J	I-1250-84
~~10.~~14. Copper	~~A~~	~~200.7, 220.1, 220.2~~
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3111B, 3113B, ~~3500-Cu B, C,~~ 3120 ~~3120B~~
	I	D1688-90A, D1688-90C
~~11.~~15. Corrosivity	C	2330B
16. Cyanide	A2	335.4
	C	4500-CN C, E, F
	I	D2036-91A
	I	I-3300-85
17. Cyanide, Amenable	C	4500-CN G

	I	D2036-91B
~~12.~~18. Fluoride	~~A~~	~~340.1, 340.2, 340.3~~
	A2	300.0
	C	4500-F B, C, D, E, 4110B
	I	~~D1179-88A, D1179-88B~~ D1179-93B
~~13.~~19. Hardness	~~A~~ A1	~~130.1, 130.2, Sum of 215.1 & 242.1 or~~ Sum of Ca and Mg by 200.7 as their carbonates
	C	2340B, Sum of Ca & Mg by ICP as their carbonates
~~14.~~20. Iron	~~A~~	~~200.7, 236.1, 236.2~~
	A1	200.7, 200.9
	C	~~3111,~~ 3113B, ~~3500-Fe B, C,~~ 3120B
~~15.~~21. Lead	~~A~~	~~200.7, 239.1, 239.2~~
	A1	200.7, 200.9
	C	~~3111,~~ 3113B, ~~3500-Pb B, C, 3120B~~
	I	~~D3559-85A,~~ D3559-85D
~~16.~~22. Magnesium	~~A~~	~~200.7, 242.1~~
	A1	200.7
	C	~~3111,~~ 3111B, ~~3500-Mg B, C, 3120B~~ 3120
~~17.~~23. Manganese	~~A~~	~~200.7, 243.1, 243.2~~
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3111B, 3113B, ~~3500-Mn B, C,~~ 3120B
	I	D858-90A, D858-90C
~~18.~~24. Methylene Blue Active Substances	~~A~~	~~425.1~~
	C	5540C
~~19.~~25. Mercury	A	~~245.1,~~ 245.2
	A1	245.1, 200.8
	C	~~3500-Hg B~~ 3112B
	I	~~D3223-86~~ D3223-91
26. Nickel	A1	200.7, 200.8, 200.9
	C	3111B, 3113B, 3120B
~~20.~~27. ~~Nitrogen,~~ Nitrate	~~A~~ A2	~~352.1, 353.1,~~ 353.2, 300.0, ~~353.3~~
	C	4500-NO_3 ~~C,~~ D, E, F, 4110B
	I	D3867-90A, D3867-90B
	~~V~~	~~300.0~~
28. Nitrate	A2	353.2, 300.0
	C	4500-NO2 B, E, F, 4110B
	I	D3867-90A, D3867-90B
29. Ortho-Phosphate	A2	365.1, 300.0
	I	D-515-88A
	C	4500-P-E,F, 4110
	I	I-2601-85, I-2598-85
30. Ozone	C	4500-03 B
~~21.~~31. pH (Hydrogen Ion)	A	150.1, 150.2
	C	4500-H B
	I	~~D1293-84A,~~ D1293-84B
~~22.~~32. Residue, Filterable	~~A~~	~~160.1~~
	C	2540C
	I	I-1750-84
~~23.~~33. Temperature, Degrees Celsius	~~A~~	~~170.1~~
	C	2550B
~~24.~~34. Turbidity, NTU: Nephelometric	A	180.1
	C	2130, ~~2130B~~
~~25.~~35. Selenium	~~A~~	~~200.7, 270.2, 270.3~~
	C	3113B, 3114B, ~~3500-Se C, H, I~~
	I	~~D3859-88,~~ D3859-93A, D3859-93B
	J	~~I-1667-78~~ I-3667-85
36. Silica	A1	200.7
	C	4500-Si, D, E, F, 3120B

	I	D859-88
	I	I-1700-85
~~26.~~37. Silver	~~A~~	~~200.7, 272.1, 272.2~~
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3111B, 3113B, ~~3500-Ag B, C,~~ 3120B
	I	I-3720-85
~~28.~~38. Sodium	~~A~~	~~200.7, 273.1, 273.2~~
	A1	200.7
	C	~~3111,~~ 3111B, ~~3500-Na B, C, D~~ 3120B, ~~D4191-82~~ D1428-82A
~~27.~~39. Specific Conductance	~~A~~	~~120.1~~
	C	2510B
	I	~~D1125-82A~~ D1125-91A
	~~J~~	~~I-1780-84~~
~~29.~~40. Strontium	~~A~~	~~200.7~~
	A1	200.7
	C	3500-Sr B, C, D
~~30.~~41. Sulfate	A	375.2, ~~375.3, 375.4~~
	A2	300.0
	C	4100, 4500-SO_4 ~~B,~~ C, D, ~~E,~~ F
	I	D4327-91
	~~V~~	~~300.0~~
42. Thallium	A1	200.8, 200.9
~~31.~~43. Zinc	~~A~~	~~200.7, 289.1, 289.2~~
	A1	2007, 200.8
	C	~~3111,~~ 3111B, ~~3500-Zn B, C,~~ 3120B
D. Organic chemicals:	KEY	APPROVED METHOD
1. Total Trihalomethanes	~~C~~	~~6232 B, D~~
	~~U~~ D	~~501.1, 501.2, 510.0,~~ 502.2
	D1	551
	D2	524.2
2. Halogenated Volatiles	D	~~502.1,~~ 502.2
3. Aromatic Volatiles	D	502.2, ~~503.1~~
4. Chlorinated Pesticides	~~C~~	~~6630C~~
	D	505, 508, 508.1, 525.2
	~~I~~	~~D3086-85~~
5. Polychlorinated Biphenyls (PCBS)	D	505, 508, 508A
6. Chlorophenoxy Herbicides	C	6640B
	D	515.1
	D2	515.2, 555
	I	D3478-85
7. 1, 2-Dibromoethane (EDB)	D	~~504,~~ 504.1
	D1	551
	K	BLS-127
8. 1, 2-Dibromo-3-Chloropropane (DBCP)	D	~~504,~~ 504.1
	D1	551
	K	BLS-127
9. Nitrogen and Phosphorus Pesticides	D	507, 525.2
~~10. Volatile Organics~~	~~D~~	~~524.1, 524.2~~
~~11.~~10. Base/Neutrals and Acids	D	~~525,~~ 525.2
~~12.~~11. Carbamates	D	531.1
12. Dioxins and Furans	D5	1613
13. Glyphosate	D1	547
14. Endothall	D2	548.1
15. Diquat and Paraquat	D2	549.1
16. Polycyclic Aromatic Hydrocarbons	D	525.2
	D1	550, 550.1
17. DBPs and Chlorinated Solvents	D1	551
18. Haloacetic Acids	D1	552
	D2	552.1

	19. Phthalate Esters and Adipates	D	525.2
		D1	506
	20. Benzidines and Nitrogen Pesticides	D2	553
	21. Carbonyl Compounds	D2	554
	22. Chlorinated Acids	D2	555
E.	Radiochemical:	KEY	APPROVED METHOD
	1. Gross Alpha	B	Gross Alpha
		C	7110B
		L	900
	2. Gross Beta	B	Gross Beta
		C	7110B
		L	900
	3. Total Radium	B	Total Radium
		C	7500-Ra B
		L	903
	4. Radium-226	B	Radium-226
		C	7500-Ra B
		L	903.1
	5. Radium-228	L	904
	~~5.~~6. Cesium-134	B	Cesium-134
		C	7500-Cs B
		L	901
	~~6.~~7. Iodine-131	B	Iodine-131
		C	7500-I B, C
		L	902
	~~7.~~8. Radon-222	L	Lucas Cell
	~~8.~~9. Strontium	B	Strontium
		C	7500-Sr B
		L	905
	~~9.~~10. Tritium	B	Tritium
		C	7500-H B
		L	906
	~~10.~~11. Uranium	B	Uranium
		C	7500-U B, C
		L	908, 908.1
		I	D2907-83
	~~11.~~12. Gamma Emitting Isotopes	L	901.1

~~R9-14-609.~~R9-14-610. Wastewater Sample Matrix

Every laboratory which conducts compliance testing under this rule shall use the following approved methods, unless a method falls under the alternate specifications pursuant to R9-14-608(A) or (B).

To locate the source of the approved methods, cross reference the capital letter listed under "KEY" to the reference designation listed in ~~R9-14-607(A)~~ R9-14-608(C).

A.	Microbiology:	KEY	APPROVED METHOD
	1. Fecal Coliforms:		
	Multiple Tube Fermentation	C	~~9221C~~ 9221E
	Membrane Filter	C	9222D
		J	~~B-0050-77~~ B-0050-85
	2. Total Coliforms:		
	Multiple Tube Fermentation	C	9221B
	Membrane Filter	C	9222B
		J	B-0025-77
	3. Fecal Streptococcus:		
	Multiple Tube	C	9230B
	Membrane Filter	C	9230C
		J	~~B0055-77~~ B0055-85
	4. Viruses	P	Methods for Virology
		C	9510
B.	Inorganic chemicals, nutrients and demand:	KEY	APPROVED METHOD
	1. Acidity	A	305.1, ~~305.2~~
		C	2310B
		I	~~D1067-88B~~ D1067-92

2. Alkalinity, Total	A	310.1, 310.2
	C	2320B
	I	~~D1067-88B~~ D1067-92
	J	~~I-1030-84,~~ I-1030-85, ~~I-2030-84~~ I-2030-85
3. Aluminum	A	~~200.7,~~ 202.1, 202.2
	A1	200.7, 200.8, 200.9
	C	3113B, 3111D, ~~3500-Al B, C,~~ 3120B
	J	I-3051-85
4. Ammonia	A	350.1, 350.2, 350.3
	C	4500-NH_3 B, C, ~~D,~~ E, F, G, H
	I	D1426-89A, D1426-89B
	J	~~I-3520-84,~~ I-3520-85, ~~I-4523-84,~~ I-4523-85
5. Antimony	A	~~200.7,~~ 204.1, 204.2
	A1	200.7, 200.8, 200.9
	C	3113B, ~~3500-Sb B, C,~~ 3120B, 3111B
6. Arsenic	A	~~200.7,~~ 206.2, 206.3, 206.4, 206.5
	A1	200.7, 200.8, 200.9
	C	3113B, 3500-As B, C, ~~E,~~ 3120B
	I	~~D2972-88A, D2972-88B~~ D2972-88A, B, C
	J	I-3060-85, I-3062-85
7. Barium	A	~~200.7,~~ 208.1, 208.2
	A1	200.7, 200.8
	C	3111, 3113B, ~~3500-Ba B, C,~~ 3120B
	I	D4382-91
	J	I-3084-85
8. Beryllium	A	~~200.7,~~ 210.1, 210.2
	A1	200.7, 200.8, 200.9
	C	3111, 3113B, 3120B, 3500-Be ~~B, C,~~ D
	I	D3645-84A, D364588B, D419088
	J	I-3095-85
9. Biochemical Oxygen Demand	A	405.1
	C	5210B
	J	I-1578-78
10. Boron	A	~~200.7,~~ 212.3
	A1	200.7
	C	3120B, 4500-B B, ~~D~~
	J	I-3112-85
11. Bromide	A	320.1
	A2	300.0
	I	~~D1246-88~~ D1246-88C
	J	~~I-1125-84~~ I-1125-85
	~~V~~	~~300.0~~
12. Cadmium	A	~~200.7,~~ 213.1, 213.2
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 311B, C 3113B, 3120B, 3500-Cd ~~B, C,~~ D
	I	D3557-90 A, B, C
	J	I-3135-85, I-3136-85
13. Calcium	A	~~200.7,~~ 215.1, 215.2
	A1	200.7
	C	3111, 3120B, 3500-Ca ~~B, C,~~ D
	I	~~D511-88A,~~ D511-92A, ~~D511-88B~~ D511-92B
	J	I-3152-85
14. Chemical Oxygen Demand	A	410.1, 410.2, 410.3, 410.4
	C	~~5220B,~~ 5220B, C, D
	C1	8000
	I	~~D-1252-88~~ D-1252-88A,B
	J	~~I-3560-84,~~ I-3560-85, ~~I-3561-84,~~ I-35-61-85, ~~I-3562-84~~ I-3562-85
15. Chloride	A	325.1, 325.2, 325.3

	A2	300.0
	C	4500-Cl B, C, E, F
	I	D512-89A, D512-89B
	J	I-1183-84, I-1183-85, I-1187-84, I-1187-85, I-2187-84 I-2187-85, I-1184-85
	V	300.0
16. Chlorine, Total Residual	A	330.1, 330.2, 330.3, 330.4, 330.5
	C	4500-Cl B, C, D, E, F, G
	I	D1253-86
17. Chromium, Hexavalent	A	218.4, 218.5
	C	3500-Cr D, 3111C
	J	I-1230-84, I-1230-85, I-1232-84 I-1232-85
18. Chromium, Total	A	200.7, 218.1, 218.2, 218.3
	A1	200.7, 200.8, 200.9
	C	3111, 3111B,C 3113B, 3120B, 3500-Cr B, C, D
	I	D1687-86A, D1687-86B D1687-92A,B,C D4190-82
	J	I-3236-85
19. Cobalt	A	200.7, 219.1, 219.2
	A1	200.7, 200.8, 200.9
	C	3111, 3111B,C 3113B, 3120B 3500-Co B,C
	I	D3558-85A, D3558-85B D3550-90A,B D1490-82
	J	I-3239-84, I-3239-85 I-3240-84
20. Color	A	110.1, 110.2, 110.3
	C	2120B, 2120C, 2120E
	J	I-1250-84 I-1250-85
21. Copper	A	200.7, 220.1, 220.2
	A1	200.7, 200.8, 200.9
	C	3111, 3111B,C 3113B, 3120B, 3500-Cu B, C, D, E
	C1	8506
	I	D1688-90A D1688-90A,B,C D4190-82
	J	I-3270-85, I-3271-85
22. Cyanide, Amenable to Chlorination	A	335.1
	C	4500-CN G
	I	D2036-89B D2036-91B
23. Cyanide, Total	A	335.2, 335.3
	C	4500-CN C, D, E
	I	D2036-89A D2036-91A
	J	I-3300-84 I-3300-85
24. Fluoride	A	340.1, 340.2, 340.3
	A2	300.0
	C	4500-F B, C, D, E
	I	D1179-88A, D1179-88B
	J	I-4327-84 I-4327-85
25. Gold	A	231.1, 231.2
	C	3111, 3111B, 3500-Au B
26. Hardness	A	130.1, 130.2, Sum of 215.1 & 242.1 —or ICP Ca & Mg as their carbonates
	A1	200.7
	C	2340B, 2340C
	I	D1126-86
	J	I-1338-84 I-1338-85
27. Iridium	A	235.1, 235.2
	C	3111 3111B
28. Iron	A	200.7, 236.1, 236.2
	C	3111, 3111B,C 3113B, 3120 B, 3500-Fe B, C, D
	C2	8008

	I	D1068-90 A, B, C, D, D4190-82
	J	I-3381-85
29. Kjeldahl, Total Nitrogen	A	351.1, 351.2, 351.3, 351.4
	C	4500-NH_3 B, C, E, F, G, ~~4500-N B, 4500-N C~~
	I	D3590-89A, D3590-89B
	J	I-4551-78
30. Lead	A	~~200.7,~~ 239.1, 239.2
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3111B,C 3113B, 3120B, 3500-Pb ~~B, C,~~ D
	I	~~D3559-85 A, B, C~~ D3559-85A,B,C,D, D4190-82
	J	I-3399-85
31. Magnesium	A	~~200.7,~~ 242.1
	A1	200.7
	C	~~3111,~~ 3111B, 3500-Mg ~~B, C,~~ D, 3120B
	I	~~D511-88A, D511-88B~~ D511-92B
	J	I-3447-85
32. Manganese	A	~~200.7,~~ 243.1, 243.2
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3111B, 3113B, 3120B, 3500-Mn ~~B, C,~~ D
	C1	8034
	I	~~D858-90A, D858-90C~~ D858-90A,B,C D4190-82
	J	I-3454-85
33. Mercury	A	~~245.1,~~ 245.2
	A1	245.1
	C	~~3500-Hg B~~ 3112B
	I	~~D3223-86~~ D3223-91
	J	~~1-3462-84~~ I-3462-85
34. Molybdenum	A	~~200.7,~~ 246.1, 246.2
	A1	200.7, 200.8
	C	~~3111,~~ 3111D, 3113B, ~~3500-Mo B, C,~~ 3120B
	J	I-3490-85
35. Nickel	A	~~200.7,~~ 249.1, 249.2
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3111B,C 3113B, 3120B, 3500-Ni ~~B, C,~~ D
	I	~~D1886-90A, D1886-90C~~ D1886-90A,B,C D4190-82
	J	I-3499-85
36. Nitrate, ~~Nitrogen~~	A	352.1, 353.1, 353.2, 353.3
	A2	300.0
	C	4500-NO_3 ~~C,~~ E, F, H
	I	D3867-90A, D3867-90 B
	J	~~I-4545-84~~ I-4545-85
	~~V~~	~~300. 0~~
37. Nitrite, ~~Nitrogen~~	A	354.1
	A2	300.0
	C	4500-NO_2 ~~B, 4500-NO_2 C~~
	C1	8507
	~~I~~	~~D4327-88~~
	J	~~I-4540-84~~ I-4540-85
	~~V~~	~~300.0~~
38. Oil and Grease	A	413.1~~, 413.2~~
	C	5520B
39. Organic Carbon, Total (TOC)	A	415.1~~, 415.2~~
	C	~~5310~~ 531B,C,D
	I	D2579-85A, D2579-85B
40. Orthophosphate	A	365.1, 365.2, 365.3
	A2	300.0
	C	4500-P E,F
	I	D515-88A

	~~I~~	~~I-4601-85~~
~~40.~~41. Osmium	A	252.1, 252.2
	C	~~3111, 3111D, 3500-Os B~~
~~41.~~42. Oxygen, Dissolved	A	360.1, 360.2
	C	4500-0 C, 4500-0 G
	I	~~D888-87B~~ D888-92A,B
	J	I-1575-78, I-1576-78
~~42.~~43. Palladium	A	253.1, 253.2
	C	3111B
~~43.~~44. H (Hydrogen Ion)	A	150.1, ~~150.2~~
	C	4500-H B
	I	D1293-84A, D1293-84B
	J	~~I-1586-84~~ I-1586-85
~~44.~~45. Phenols, Total	A	420.1, 420.2
	~~I~~	~~D1783-87A, D1783-87B~~
~~45. Phosphate, Ortho~~	~~A~~	~~365.1, 365.2, 365.3~~
	~~C~~	~~4500-P E, 4500-P F~~
	~~I~~	~~D515-88A~~
	~~J~~	~~I-4601-84~~
46. Phosphorus, Total	A	365.1, 365.2, 365.3, 365.4
	C	4500-P B, E, F
	I	D515-88A, D515-88B
	J	~~I-4600-84~~ I-4600-85
47. Platinum	A	255.1, 255.2
	C	~~3111,~~ 3111B, ~~3500-Pt B~~
48. Potassium	A	~~200.7,~~ 258.1
	A1	200.7
	C	~~3111,~~ 3111B, 3500-K ~~B, C,~~ D, 3120B
	J	~~I-3630-84~~ I-3630-85
49. Residue, Total	A	160.3
	C	2540B
	J	~~I-3750-84,~~ I-3750-85
50. Residue, Filterable (TDS)	A	160.1
	C	2540C
	J	~~I-1750-84~~ I-1750-85
51. Residue, Nonfilterable (TSS)	A	160.2
	C	2540D
	J	~~I-3765-84~~ I-3765-85
52. Residue, Settleable Solids	A	160.5
	C	254OF
53. Residue, Volatile	A	160.4
	~~C~~	~~2540E~~
	J	~~I-3753-84~~ I-3753-85
54. Rhodium	A	265.1, 265.2
	C	~~3111,~~ 3111B, ~~3500-Rh B~~
55. Ruthenium	A	267.1, 267.2
	C	~~3111,~~ 3111B, ~~3500-Ru B~~
56. Selenium	A	~~200.7,~~ 270.2, ~~270.3~~
	A1	200.7, 200.8, 200.9
	C	3113B, ~~3500-Se C, H, I,~~ 3120B
		3114B
	I	D3859-88A
	J	~~I-3667-84~~ I-3667-85

57. Silica, Dissolved	A	~~200.7,~~ 370.1
	A1	200.7
	C	4500-Si D, ~~G,~~ 3120B
	I	D859-88
	J	~~I-1700-84,~~ I-1700-85, ~~I-2700-84~~ I-2700-85
58. Silver	A	~~200.7,~~ 272.1, 272.2
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3111B,C, 3113B, 3120B~~, 3500-Ag B, C, D~~
	J	I-3720-85
59. Sodium	A	~~200.7,~~ 273.1~~, 273.2~~
	A1	200.7
	C	~~3111,~~ 3111B, ~~3500-Na B, C, D,~~ 3120B
	~~I~~	~~D4191-82~~
	J	I-3735-85
60. Sodium Azide	C	4110C
61. Sodium/Potassium Perchlorate	V	300.0
~~60.~~62. Specific Conductance	A	120.1
	C	2510B
	I	~~D1125-82A~~ D1125-91A
	J	~~I-1780-84~~ I-1780-85
~~61.~~63. Strontium	~~A~~ A1	200.7
	C	3111, 3500-Sr B, C 3120B
~~62.~~64. Sulfate	A	375.1, ~~375.2,~~ 375.3, 375.4
	A2	300.0
	C	4500-SO_4 ~~B,~~ C, D, ~~E~~
	I	~~D516-88~~ D516-90
	~~V~~	~~300.0~~
~~63.~~65. Sulfide	A	376.1, 376.2
	C	4500-S D, 4500-S E
	J	~~I-3840-84~~ I-3840-85
~~64.~~66. Sulfite	A	377.1
	C	4500-SO_3 B
~~65.~~67. Surfactants (MBAS)	A	425.1
	C	5540C
	I	D2330-88
~~66.~~68. Temperature Degrees Celsius	A	170.1
	C	2550B
~~67.~~69. Thallium	A	~~200.7,~~ 279.1, 279.2
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3111B, ~~3500-Tl B, C,~~ 3120B
~~68.~~70. Tin	A	282.1, 282.2~~, 200.7~~
	A1	200.7, 200.9
	C	~~3111,~~ 3111B, 3113B, ~~3500-Sn B, 3120B~~
	J	I-3850-78
~~69.~~71. Titanium	A	283.1, 283.2
	C	~~3111,~~ 3111D, ~~3500-Ti B~~
~~70.~~72. Turbidity, NTU	A	180.1
	C	2130B
	I	~~D1889-88~~ D1889-88A
	J	~~I-3860-84~~ I-3860-85
~~71.~~73. Vanadium	A	~~200.7,~~ 286.1, 286.2
	A1	200.7, 200.8
	C	~~3111,~~ 3111D, 3500-V ~~B, C,~~ D, 3120B
	I	~~D3373-88~~ D4190-82
~~72.~~74. Zinc	A	~~200.7,~~ 289.1, 289.2
	A1	200.7, 200.8, 200.9
	C	~~3111,~~ 3111B,C ~~3113B,~~ 3120B, 3500-Zn ~~B, C,~~ E, F
	C1	8009

		I	~~D1691-90A~~ D1691-90A,B D4190-82
		J	I-3900-85
C.	Aquatic toxicity and bioassay:	KEY	APPROVED METHOD
	1. Static, Static/Renewal and Flow-Through	C	8711, 8910
	2. Static and Flow-Through	M	Static and Flow-Through
	3. Static and Static Renewal	N	Static and Static Renewal
D.	Organic chemical:	KEY	APPROVED METHOD
	1. Halogenated Volatiles	E	601
	2. Aromatic Volatiles	E	602
	3. Acrolein and Acrylonitrile	E	603
	4. Phenols	E	604
	5. Benzidines	E	605
	6. Phthalate Esters	E	606
	7. Nitrosamines	E	607
	8. Organochlorine Pesticides and PCBs	E	608
	9. Nitroaromatics and Isophorone	E	609
	10. Polynuclear Aromatic Hydrocarbons	E	610
	11. Haloethers	E	611
	12. Chlorinated Hydrocarbons	E	612
	13. 2, 3, 7, 8-Tetrachlorodibenzo-p-Dioxin	E	613
	14. Triazine Pesticides	E	619
	15. Purgeables	E	624, 1624
	16. Base/Neutrals and Acids	E	625, 1625
	17. Carbamates and Urea Pesticides	E	632
	18. Total Petroleum Hydrocarbons	A	418.1
	19. Ethylene Glycol in Wastewater	K	BLS-188
E.	Radiochemical:	KEY	APPROVED METHOD
	1. Gross Alpha	C	7110B
		I	~~D1943-81~~ D1943-90
		L	900
	2. Gross Beta	C	7110B
		I	~~D1890-81~~ D1890-90
		L	~~900~~ 900.0
	3. Total Radium	C	7500-Ra B
		I	~~D2460-70~~ D2460-90
		L	~~903~~ 903.0
	4. Radium-226	C	7500-Ra C
		I	~~D3454-86~~ D3454-91
		L	903.1

~~R9-14-610.~~ R9-14-611. Solid, Liquid and Hazardous Waste Sample Matrix

Every laboratory which conducts compliance testing under this rule shall use the following approved methods, unless required by permit, or unless a method falls under the alternate specifications pursuant to R9-14-608(A) or (B). To locate the source of the approved method, cross reference the capital letter listed under "KEY" to the reference designation listed in ~~R9-14-607(A)~~ R9-14-608(C).

A.	Microbiology:	KEY	APPROVED METHOD
	Total Coliforms:		
	Multiple Tube Fermentation	F	9131
	Membrane Filter	F	9132
B.	Hazardous waste characteristics:	KEY	APPROVED METHOD
	1. Corrosivity:		
	pH determination	F	~~9040,~~ 9040A, ~~9041~~ 9041A
	corrosive to steel	F	1110
	Dermal	F	1120
	2. Ignitability	F	1010, ~~1020~~ 1020A, 1030
	3. Reactivity	F	Reactivity
C.	Sample extraction procedures:	KEY	APPROVED METHOD
	1. Extraction Procedure Toxicity (EP TOX)	F	~~1310~~ 1310A
	2. Toxicity Characteristic Leaching Procedure (TCLP)	F	1311
	3. Multiple Extraction Procedure	F	1320

4.	Extraction Procedure For Oily Waste	F	~~1330~~ 1330A
5.	Synthetic Precipitation Leaching Procedure (SPLP)	E	1312
D.	Metals sample preparation:	KEY	APPROVED METHOD
1.	Dissolved in Water	F	~~3005~~ 3005A
2.	Total Recoverable in Water	F	~~3005~~ 3005A
3.	Total Metals	F	~~3010,~~ 3010A, ~~3020~~ 3120A
4.	Oils, Greases, and Waxes	F	~~3040~~ 3031
5.	Sediments, Sludges, and Soils	F	~~3050~~ 3050A
6.	Microwave Assisted Digestions	E	3015, 3051, 3052
E.	Inorganic chemical:	KEY	APPROVED METHOD
1.	Aluminum	F	~~6010,~~ 6010A, 6020, 7020
2.	Antimony	F	~~6010,~~ 6010A, 6020, 7040, 7041, 7062
3.	Arsenic	F	~~6010,~~ 6010A, ~~7060,~~ 7060A, ~~7061,~~ 7061A, 7062, 7063, 6020, 7061
4.	Barium	F	~~6010,~~ 6010A, 6020, ~~7080,~~ 7080A, 7081
5.	Beryllium	F	~~6010,~~ 6010A, 6020, 7090, 7091
6.	Cadmium	F	~~6010,~~ 6010A, 6020, 7130, ~~7131~~ 7131A
7.	Calcium	F	~~6010,~~ 6010A, 7140
8.	Chromium, Total	F	~~6010,~~ 6010A, 6020, 7190, 7191
9.	Chromium, Hexavalent	F	7195, ~~7196,~~ 7196A, 7197, 7198, 7199
10.	Cobalt	F	~~6010,~~ 6010A, 6020, 7200, 7201
11.	Copper	F	~~6010,~~ 6010A, 6020, 7210, 7211
12.	Iron	F	~~6010,~~ 6010A, 7380, 7381
13.	Lead	F	~~6010,~~ 6010A, 6020, 7420, 7421
14.	Lithium	F	~~6010,~~ 6010A, 7430
15.	Magnesium	F	~~6010,~~ 6010A, 7450
16.	Manganese	F	~~6010,~~ 6010A, 6020, 7460, 7461
17.	Mercury	F	~~7470,~~ 7470A, ~~7471~~ 7471A, 7472
18.	Molybdenum	F	~~6010,~~ 6010A, 7480, 7481
19.	Nickel	F	~~6010,~~ 6010A, 6020, 7520, 7521
20.	Osmium	F	~~6010,~~ 6010A, 7550
21.	Potassium	F	~~6010,~~ 6010A, 7610
22.	Selenium	F	~~6010,~~ 6010A, 7740, ~~7741~~ 7741A, 7442
23.	Silver	F	~~6010,~~ 6010A, 6020, ~~7760,~~ 7760A, 7761
24.	Sodium	F	~~6010,~~ 6010A, 7770
25.	Strontium	F	~~6010,~~ 6010A, 7780
26.	Thallium	F	~~6010,~~ 6010A, 6020, 7840, 7841
27.	Tin	F	~~6010,~~ 6010A, 7870
28.	Vanadium	F	~~6010,~~ 6010A, 7910, 7911
29.	Zinc	F	~~6010,~~ 6010A, 6020, 7950, 7951
30.	White Phosphorus By GC	E	7580
F.	Sample preparation and extraction:	KEY	APPROVED METHOD
1.	Preparation and Extraction	F	~~3500~~ 3500A
2.	Funnel Liquid-Liquid Extraction	F	~~3510~~ 3510B
3.	Continuous Liquid-Liquid Extraction	F	~~3520~~ 3520B
4.	Solid Phase Extraction	E	3535
~~4.~~5.	Soxhlet Extraction	F	~~3540~~ 3540B, 3541
6.	Accerated Solvent Extraction	E	3545
~~5.~~7.	Sonication Extraction	F	~~3550~~ 3550A
8.	Supercritical Fluid Extraction	E	3560, 3561
~~6.~~9.	Waste Dilution	F	~~3580,~~ 3580, 3585
~~7.~~10.	Purge and Trap	F	~~5030,~~ 5030A
~~8.~~11.	Sorbent Cartridges from Organic Sampling Train	F	~~5040,~~ 5041
12.	Cyanide Extraction for Solids and Oils	E	9013
13.	Bomb Preparation Method for Solid Waste	E	5050
G.	Sample cleanup:	KEY	APPROVED METHOD
1.	Cleanup	F	~~3600~~ 3600B
2.	Alumina Column	F	~~3610~~ 3610A
3.	Alumina Column - Petroleum Wastes	F	~~3611~~ 3611A

4.	Florisil Column	F	~~3620~~ 3620A
5.	Silica Gel Cleanup	F	~~3630~~ 3630B
6.	Gel-Permeation Cleanup	F	~~3640~~ 3640A
7.	Acid-Base Partition	F	~~3650~~ 3650A
8.	Sulfur Cleanup	F	~~3660~~ 3660A
9.	Sulfuric Acid/Permanganate Cleanup	F	3665
H.	Organic chemical:	KEY	APPROVED METHOD
~~1.~~	~~Halogenated Volatile Organics~~	~~F~~	~~8010~~
~~2.~~1.	EDB and DBCP	F	8011
~~3.~~2.	Nonhalogenated Volatile Organics	F	~~8015~~ 8015A, 8015M
~~4.~~	~~Aromatic Volatile Organics~~	~~F~~	~~8020~~
~~5.~~3.	Volatile Organics	F	~~8021,~~ 8021A, ~~8240, 8260~~ 8260A
~~6.~~4.	Acrolein/Acrylonitrile/Acetonitrile	F	~~8030,~~ 8316
5.	Acrylonitrile	E	8031
6.	Acrylamide	E	8032
7.	Acetonitrile	E	8033
~~7.~~8.	Phenols	F	~~8040~~ 8041
~~8.~~9.	Phthalate Esters	F	~~8060~~ 8061
~~9.~~10.	Nitrosamines	F	~~8070,~~ 8330
~~10.~~11.	Organochlorine Pesticides and PCBs	F	~~8080,~~ 8081, 8082
12.	PCBS in Waste Oil	F1	EPA-600/4-81-045
~~11.~~13.	Nitroaromatics and Cyclic Ketones	F	~~8090~~ 8330, 8091
~~12.~~14.	Polynuclear Aromatic Hydrocarbons	F	8100, 8310
~~13.~~15.	Haloethers	F	~~8110,~~ 8111
~~14.~~16.	Chlorinated Hydrocarbons	F	~~8120,~~ 8121
~~15.~~17.	Organophosphorus Pesticides	F	~~8140, 8141~~ 8141A
~~16.~~18.	Chlorinated Herbicides	F	~~8150,~~ 8151
~~17.~~19.	Semivolatile Organics GC/MS	F	~~8250, 8270~~ 8270B, 8275A
20.	Semi-Volatiles by GC/FT-IR	E	8410
~~18.~~21.	Polychlorinated Dibenzo-P-Dioxins and Polychlorinated Dibenzofurans	F	~~8280,~~ 8290
22.	Caronyl Compounds	E	8315
23.	N-Methylcarbamates	E	8318
24.	Non-Volatile Organics (HPLC/TSP/MS) HPLC/PB/MS)	E	8331, 8325
25.	Tetrazine	E	8331
~~19.~~26.	Total Petroleum Hydrocarbons in Soil	K	~~BLS-181~~ 418.1AZ, 8440
~~20.~~27.	Fuel Class Hydrocarbons	K	BLS-191
28.	Trinitrotoluene	E	4050
29.	RDX By Immunoassay	E	4051
30.	Aniline and Derivatives	E	8131
31.	Nitroglycerine	E	8332
32.	Bis (2-chlorethyl) Ether Hydrolysis Products)	E	8430
I.	Organic chemical screening:	KEY	APPROVED METHOD
1.	Headspace	F	3810, 5021
2.	Purgeables after Hexadecane Extraction	F	3820
3.	Semivolatile Organics TC/MS	E	8275
4.	Immunoassay	E	4010, 4015, 4020, 4030, 4035, 4040, 4041, 4042
5.	Polychlorinated Biphenyls	E	9078, 9079
6.	Trinitrotoluene	E	8515
J.	Miscellaneous:	KEY	APPROVED METHOD
1.	~~Total and Amenable~~ Cyanide	F	~~9010,~~ 9010A, 9012, ~~9213~~
2.	Total Organic Halides (TOX)	F	~~9020,~~ 9020B, 9022
3.	Purgeable Organic Halides (POX)	F	9021
4.	Extractable Organic Halides (EOX)	E	9023
~~4.~~5.	Sulfides	F	~~9030,~~ 9030A, 9031, 9215
~~5.~~6.	Sulfate	F	9035, 9036, 9038, 9056
~~6.~~7.	pH (Hydrogen ion)	F	~~9040,~~ 9040A, ~~9041,~~ 9041A, ~~9045~~ 9045B
~~7.~~8.	Specific Conductance	F	9050

~~8.~~9. Total Organic Carbon (TOC)	F	9060
~~9.~~10. Phenolics	F	9065, 9066, 9067
~~10.~~11. Total Recoverable Oil and Grease	F	9070, ~~9071~~ 9071A
~~11.~~12. Nitrate	F	~~9200,~~ 9210, 9056
13. Nitrite	E	9056
~~12.~~14. Chloride	F	9250, 9251, ~~9252,~~ 9252A, 9057, 9212
15. Bromide	E	9056, 9211
16. Fluoride	E	9056, 9211
17. Total Chlorine in New and Used Petroleum Products	E	9075, 9076, 9077
18. Cation-Exchange Capacity of Soils	E	9080, 9081
19. Compatibility Test for Wastes and Membrane Liners	E	9090A
20. Paint Filter Liquids Test	E	9095
21. Liquid Release Test Procedure	E	9096
22. Saturates Hydraulic and Leachate Conductivity and Instrinsic Permeability	E	9100
23. Chloride	E	9056
24. O-Phosphate-P	E	9056
K. Asbestos:	KEY	APPROVED METHOD
1. Fiber Counting	G	7400, 7402
2. Bulk Asbestos	G	9002
	H	Bulk Asbestos
L. Radiochemical:	KEY	APPROVED METHOD
1. Gross Alpha and Beta	F	9310
2. Alpha-Emitting Radium Isotopes	F	9315
3. Radium-228	F	9320

~~R9-14-611.~~R9-14-612. Air Sample Matrix

Every laboratory which conducts compliance testing under this rule shall use the following approved methods, unless a method falls under the alternate specifications pursuant to R9-14-608(A) or (B).

To locate the source of the approved method, cross reference the capital letter listed under "KEY" to the reference designation listed in ~~R9-14-607(A)~~ R9-14-608(C).

A. Ambient air ~~primary and secondary pollutants:~~	KEY	APPROVED METHOD
1. Carbon Monoxide	O	Appendix C
2. Hydrocarbons	O	Appendix E
3. Lead	O	Appendix G
4. Nitrogen Dioxide	O	Appendix F
5. Ozone	O	Appendix D, H
6. Particulate Matter	O	Appendix B, J, K
7. Sulfur Oxides	O	Appendix A
8. Formaldehyde	E	8520
B. Stationary and stack sources:	KEY	APPROVED METHOD
1. Carbon Dioxide, Oxygen and Excess Air	Q	Method 3~~, 31~~
2. Carbon Monoxide	Q	Method 10, 10A, 10B
3. Carbonyl Sulfide, Hydrogen Sulfide, and Carbon ~~Dioxide~~ Disulfide	Q	Method 15
4. Fluoride	Q	Method 13A, 13B, 14
5. Fugitive Emissions	Q	Method 22
6. Gaseous Organic Compounds	Q	Method 18, 25, 25A, 25B
7. Hydrogen Sulfide	Q	Method 11~~, 15~~
8. Inorganic Lead	Q	Method 12
9. Moisture Content	Q	Method 4
10. Nitrogen Oxide	Q	Method 7, 7A, 7B, 7C, 7D, 7E, 19, 20
11. Particulate Emissions:		
Asphalt Processing	Q	Method 5A
Fiberglass Insulation	Q	Method 5E
Nonsulfate	Q	Method 5F
Nonsulfuric Acid	Q	Method 5B
Pressure Filters	Q	Method 5D
Stationary Sources	Q	Method 5, 17
Sulfur Dioxide	Q	Method 19

	Wood Heaters	Q	Method 5G, 5H
12.	Sulfur and Total Reduced Sulfur	Q	Method 15A, 16, 16A, 16B
13.	Sulfur Dioxide	Q	Method 6, 6A, 6B, 6C, 8, 19, 20
14.	Sulfuric Acid Mist	Q	Method 8
15.	Vapor Tightness Gasoline Delivery Tank	Q	Method 27
16.	Volatile Matter, Density Solids and Water	Q	Method 24, 24A
17.	Volatile Organic Compounds	Q	Method 21
18.	Wood Heaters Certification and Burn Rates	Q	Method 28, 28A
C.	ADEQ emission tests:	KEY	APPROVED METHOD
1.	Particulate Emissions:		
	Sulfuric Acid Mist/Sulfur Oxides	R	Method A1
	Dry Matter	R	Method A2
D.	National emission standards for hazardous air pollutants:	KEY	APPROVED METHOD
1.	Arsenic	S	Method 108, 108A
2.	Beryllium	S	Method 103, 104
3.	Mercury	S	Method 101, 101A, 102, 105
4.	Polonium-210	S	Method 111
5.	Vinyl Chloride	S	Method 106, 107, 107A

~~R9-14-612.~~ R9-14-613. Quality Assurance

A. The laboratory shall have a written quality assurance plan that describes actions to be taken by the lab to ensure that routinely generated analytical data are scientifically valid and defensible and are of known and acceptable precision and accuracy. The written plan shall contain:

1. A title page identifying the laboratory, ~~date of preparation,~~ date of review and the laboratory director's signature of approval;
2. A table of contents;
3. A detailed statement of the laboratory organization, line of authority, and identification of principal quality assurance personnel;
4. A statement of quality assurance objectives, including data quality objectives with precision and accuracy goals and criteria for the laboratory to judge the acceptability of each testing;
5. Specifications for:
   a. The use of proper sample containers;
   b. The proper preparation of sample containers;
   c. The proper preservation of samples; and
   d. Compliance sample maximum allowable holding times;
6. A procedure for documenting laboratory receipt of samples and tracking of samples throughout laboratory testing;
7. A procedure for analytical instrument calibration and frequency;
8. ~~A listing of all compliance testing parameters and approved methods performed by the laboratory~~ A copy of the laboratory's current license and list of licensed parameters;
9. A listing of the procedures for compliance testing data reduction, validation, and reporting. These procedures shall include the identification and treatment of data outliers and the procedures for determining completeness and accuracy of data transcription and all calculations;
10. A statement of the frequency of use and acceptance tolerance of all compliance testing quality control checks;
11. Preventive maintenance procedures and schedules;
12. Assessment procedures for data acceptability;
13. Corrective action procedures taken when results from analytical quality control checks are unacceptable. These procedures shall include the steps taken to demonstrate the presence of any interference if the precision, accuracy, or the practical quantitation limit of the reported compliance testing result is affected by the interference; and
14. Procedures for chain-of-custody documentation, including procedures for the documentation and reporting of any deviation from the sample handling or preservation requirements listed in this Section.

B. The laboratory shall:

1. Have available on the premises all methods, equipment, reagents, and glassware necessary for the compliance testing for which the laboratory is licensed or is requesting licensure, unless it documents its ability to perform the approved method and ensures that the analytical data generated are scientifically valid and defensible and are of known and acceptable precision and accuracy in a petition for an exemption from this subsection only;
2. Use only reagents of a grade equal to or greater than that called for by the approved methods referenced in ~~R9-14-608~~ R9-14-609 through ~~R9-14-611~~ R9-14-612;
3. Maintain complete and current Standards Operating Procedures (SOP's) for all licensed methods;
~~3.~~4. Calibrate equipment according to the manufacturer's specifications and as required by the approved method;
~~4.~~5. Maintain calibration logs available for on-site review. Calibration and documentation thereof by a laboratory instrument service organization is acceptable;
~~5.~~6. Develop, ~~and~~ document, and maintain current method detection limits and the practical quantitation limit for each compliance parameter, approved method and sample matrix for each instrument of use;
~~6.~~7. Maintain all compliance testing equipment in good working order; ~~and~~
~~7.~~8. Maintain quality control charts which demonstrate the accuracy and precision of its compliance testing.;
9. If a laboratory tests for a parameter for which quality control acceptance criteria are not specified, the laboratory must statistically develop limits from historical data. The mean and standard deviation for a minimum of 20 data points, excluding statistical outliers, must be determined. The limits shall be the mean + 3 (or less) standard deviations and shall be in the detectable range; and
10. Discard or segregate all expired standards or reagents from all compliance testing.

~~R9-14-613.~~ R9-14-614. Operation

A. All samples accepted by a laboratory for compliance testing shall be analyzed by that laboratory, except that samples, other

than those submitted for performance evaluation audit purposes, may be forwarded to another laboratory licensed under this Article or certified by EPA for examination.

B. If the laboratory performing an examination is not the laboratory which accepted the sample, all reports shall include the name and address of the laboratory accepting the sample and the name and address of the laboratory actually examining the sample.

C. The laboratory shall:
1. Maintain the facility and utilities required for proper equipment operation and use of compliance testing approved methods;
2. Provide ~~ventilation and~~ environmental ~~control~~ controls such that laboratory conditions do not affect analytical results beyond established quality control limits established for the approved methods listed in ~~R9-14-609~~ R9-14-609 through ~~R9-14-611~~ R9-14-612; and
3. Provide for storage, handling, and disposal of hazardous materials in accordance with all state and federal regulations~~.~~; and
4. Maintain documentation that all analytical personnel involved in compliance testing have been trained in the test procedures prior to performing unmonitored testing. Documentation shall include:
   a. Summary of analyst's education and professional experience;
   b. Verification of the analyst's review of the laboratory Quality Assurance Plan, and the approved methods and laboratory Standard Operating Procedures used by the analyst for compliance testing;
   c. Verification of the analyst's completion of monitored training which includes the actual use of the equipment and the use of proper laboratory technique. Verification shall include the name of the instructor, the duration of the training, and the date of the completion of the training;
   d. Verification of the analyst's completion of training classes, continuing education courses, seminars, and/or conferences, which relate to the testing procedures used by the analyst for compliance testing.
   e. Verification of the analyst's successful completion of Initial Demonstration of Capability as required by the approved methods;
   f. Records of analysis of proficiency evaluation samples.

~~R9-14-614.~~ R9-14-615. Laboratory Records and Reports

A. Records and reports required to be maintained by this Article shall be available for inspection and copying during normal business hours by representatives of the Department. Copied records can be removed the laboratory by the Department.

B. Records and reports of compliance testing shall be kept by the laboratory for at least five years. Records and reports for the most current two years shall be kept on-site and the remaining records and reports may be stored in a secure and easily accessible storage facility.

C. If Arizona compliance data is not available for inspection and copying, the laboratory shall make available for inspection and copying any current non-Arizona compliance data requested by Department representatives to evaluate methods and procedures applied for by the laboratory.

~~C.~~D. Compliance testing records shall contain:
1. Sample information including a unique sample identification assigned by the laboratory, location or location code of sample collection, sample collection date and time, type of testing to be performed and the name of person who collected the sample;
2. The name and address of the facility or person submitting the sample to the laboratory;
3. The date, time and name of the person who receives the sample into the laboratory;
4. The date and time of testing;
5. The actual results of compliance testing, including all raw data, work sheets, and calculations performed;
6. The actual results of quality control data validating the test results including calibration and calculations performed;
7. The name of the person or persons performing the test; and
8. A copy of the final report.

~~D.~~E. Complete laboratory personnel records shall be maintained as to:
1. Academic training,
2. Experience,
3. Qualifications, and
4. Applicable certifications and/or specialized training.

~~E.~~F. Analytical instrumentation performance records shall be maintained to demonstrate consistent standardization performance with ~~standard~~ standardized reference materials.

~~F.~~G. Reports of compliance testing shall contain:
1. Laboratory name, address, and telephone number;
2. Laboratory license number issued by the Department;
3. Result of compliance testing in appropriate units of measure;
   a. Actual scientifically valid and defensible result of compliance testing in appropriate units of measure, obtained in accordance with the approved method and the laboratory Quality Assurance Plan by use of proper laboratory technique.
   b. Any result not obtained in accordance with the approved method and the laboratory Quality Assurance Plan by use of proper laboratory technique shall documented as such on the report.
4. A listing of each approved method used associated with the reported result;
5. Sample information including the unique sample identification assigned by the laboratory, location or location code of sample collection, sample collection date and time, the name of the person who collected the sample, and the facility or person who submitted the sample to the laboratory;
6. The date of the final report; and
7. Laboratory director's or designee signature.

~~R9-14-615.~~ R9-14-616. Laboratory Safety

Licensed environmental laboratories shall comply with all applicable federal, state and local regulations regarding occupational safety and health.

~~R9-14-616.~~ R9-14-617. Mobile Laboratories

A. A laboratory license is required for each mobile laboratory, unless the laboratory owner chooses the single licensure option described in ~~R9-14-605(B)~~ R9-14-606(B). All requirements of this Article shall be met by the mobile laboratory.

B. The owner of the mobile laboratory shall provide to the Department, upon request, information as to the location and scope of compliance testing performed by the mobile laboratory.

~~R9-14-617.~~ R9-14-618. Out-of-state Environmental Laboratory Licensure

A. Out-of-state laboratories applying for an initial license or a renewal license shall comply with the requirements of A.R.S. §§ 36-495 through 36-495.15 and this Article.

B. In addition to licensure fees, an out-of-state laboratory shall pay all actual expenses incurred by the Department as a result of its location in another state.

C. An out-of-state laboratory shall post a bond in an amount sufficient to cover all ~~investigation and~~ routine inspection costs incurred by the Department during the licensure period of that laboratory or all actual expenses incurred by the Department after the Department has performed an on-site investigation.

NOTICE OF PROPOSED RULEMAKING

TITLE 15. REVENUE

CHAPTER 5. DEPARTMENT OF REVENUE
TRANSACTION PRIVILEGE AND USE TAX SECTION

PREAMBLE

1. Sections Affected / Rulemaking Action

R15-5-1301	New Section
R15-5-1302	Amend
R15-5-1303	Repeal
R15-5-1304	Amend
R15-5-1305	Amend

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific): authorizing statute:

Authorizing statutes: A.R.S. §§ 42-105 and 42-1303

Implementing statute: A.R.S. § 42-1310.05

3. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Christie Comanita, Tax Analyst

Location: Tax Research and Analysis Section
Department of Revenue
1600 West Monroe
Phoenix, Arizona 85007

Telephone: (602) 542-4672

Fax: (602) 542-4680

4. An explanation of the rules, including the agency's reasons for initiating the rules:

The rules provide guidance in the application of the transaction privilege tax to persons engaged in business under the publication classification. As a result of the Department's 5-year review of Article 13, the Department is proposing to repeal and amend antiquated and repetitive rules.

5. A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:

Not applicable.

6. The summary of the economic, small business, and consumer impact:

Identification of the Rulemaking:

As a result of the Department's 5-year review of Article 13, the Department is proposing to repeal and amend antiquated and repetitive rules.

Summary of Information in the Economic, Small Business, and Consumer Impact Statement:

It is expected that the benefits of the rules will be greater than the costs. The repeal and amendment of these rules will benefit the public by eliminating repetitive and obsolete rules which no longer serve their intended purpose. The Department will incur the costs associated with the rulemaking process. Taxpayers are not expected to incur any expenses in the repeal and amendment of these rules.

7. The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name: Christie Comanita, Tax Analyst

Location: Tax Research and Analysis Section
Department of Revenue
1600 West Monroe
Phoenix, Arizona 85007

Telephone: (602) 542-4672

Fax: (602) 542-4680

8. **The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule, or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rules:**
The Department has not scheduled any oral proceedings. Written comments on the proposed rules or preliminary economic, small business, and consumer impact statements may be submitted to the person listed above. Pursuant to A.R.S. § 41-1023(C), the Department will schedule oral proceedings if 5 or more people file written requests for oral proceedings within 30 days after this publication.

9. **Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:**
None.

10. **Incorporations by reference and their location in the rules:**
None.

11. **The full text of the rules follows:**

TITLE 15. REVENUE

CHAPTER 5. DEPARTMENT OF REVENUE
TRANSACTION PRIVILEGE AND USE TAX SECTION

ARTICLE 13. ~~SALES TAX~~ PUBLICATION ~~PUBLISHING~~ CLASSIFICATION

~~R15-5-1301.~~R15-5-1303.Definitions
R15-5-1302. General
R15-5-1304. Printing ~~costs~~ Costs
R15-5-1305. Out-of-state Distribution

ARTICLE 13. ~~SALES TAX~~ PUBLICATION ~~PUBLISHING~~ CLASSIFICATION

~~R15-5-1301.~~R15-5-1303.Definitions
For purposes of this rule, the following definitions apply:

~~A.~~1. "Carriers" means persons who deliver publications to individual subscribers. The deliveries are confined to a specific area or route. ~~A "publisher" is one who manufactures and distributes a publication from a point within this state.~~

~~B.~~2. "Other vendors" means persons who deliver publications to retailers such as those operating newsstands, convenience markets, drug stores, and coin-operated vending machines. ~~The term "publication" includes books, newspapers, magazines, music, periodicals, and any other literary work.~~

~~C.~~3. "Publication" means any literary work published, including newspapers, magazines, music, and periodicals. "Publication" does not include books. ~~Effective 9/12/75, the term "publication" shall specifically exclude books. Sales of books directly to a final consumer, however, are taxable under the retail classification (see Article 18).~~

~~D.~~4. "Publisher means a person that issues or causes to be issued a publication in this state.

R15-5-1302. General

A. ~~The gross income derived from~~ A person engaged in the business of publishing within the state is subject to tax ~~taxable~~ under this classification on the gross income received from notices and subscriptions. ~~Gross income includes revenue from subscriptions, notices, and local advertising.~~

B. The sale of publications, whether directly or through other venders, to newsstands, convenience markets, drug stores, or other retailers for resale in the ordinary course of business is not subject to tax under this classification. The sale of the publication by the retailers to consumers is subject to tax as a retail sale.

C. ~~Subscription income includes all circulation revenue.~~ In determining the tax ~~taxable~~ base, the taxable shall exclude ~~however, there shall be excluded from such revenue those~~ actual amounts retained by or credited to carriers and other vendors as compensation for delivery or sale of the publications ~~newspapers~~.

~~1.~~ ~~Carriers are defined as those persons who deliver newspapers to individual subscribers. Such deliveries are confined to a specific area or route.~~

~~2.~~ ~~Other vendors are defined as those persons who deliver newspapers to retailers such as newsstands, convenience markets, drug stores, and to coin-operated vending machines located in or near commercial establishments such as office buildings, hotels, motels, grocery, and department stores.~~

~~C.~~ ~~Income of publishers from sales of newspapers, whether directly or through other vendors, to newsstands, convenience markets, drug stores, or other retailers are taxable under this classification. The sale of newspapers by such retailers to are taxable as retail sales. (See R15-5-1802(C)).~~

R15-5-1304. Printing Costs

~~The cost of printing a publication, including the subletting of printing to another person, is not deductible form the gross income~~ A publisher shall not deduct the cost of printing a publication, including the cost of subletting the printing to another person, from the tax base.

NOTICE OF PROPOSED RULEMAKING

TITLE 19. ALCOHOL, HORSE AND DOG RACING, LOTTERY, AND GAMING

CHAPTER 3. ARIZONA STATE LOTTERY COMMISSION

PREAMBLE

1. Sections Affected — Rulemaking Action
   R19-3-402 — New Section

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific): authorizing statute:
   Authorizing statute: A.R.S. § 5-504(B)

   Implementing statute: A.R.S. § 5-504(B)

3. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name:	Sandy Williams, Executive Director
Location:	Arizona State Lottery Commission 4740 East University Drive Phoenix, Arizona 85034
Telephone:	(602) 921-4400
Fax:	(602) 921-4488

4. An explanation of the rules, including the agency's reasons for initiating the rules:
   R19-3-402 sets forth provisions unique to the conduct of the Arizona Lottery's on-line Bingo game. The provisions of this rule are necessary to implement the requirements of A.R.S. § 5-504(B) which have not been specified generically in R19-3-401. The unique provisions described in these rules are the nature and location of play symbols and the methods of selecting a winning ticket.

5. A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:
   Not applicable.

6. The summary of the economic, small business, and consumer impact:
   This game will provide our players with an additional on-line game from which to choose. The only impact this rule has upon Lottery retailers is to specify how they determine if a ticket is a winning ticket and, if so, the prize amount.

7. The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name:	Sandy Williams, Executive Director
Location:	Arizona State Lottery Commission 4740 East University Drive Phoenix, Arizona 85034
Telephone:	(602) 921-4400
Fax:	(602) 921-4488

8. The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule, or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rules:

Date:	December 20, 1996
Time:	10 a.m.
Location:	Arizona State Lottery Commission 4740 East University Drive Phoenix, Arizona
Nature:	Public hearing

9. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:
   Close of record is 5 p.m., December 19, 1996, for written comments and the close of the open meeting on December 20, 1996, for verbal comments.

10. Incorporations by reference and their location in the rules:
    Not applicable.

11. The full text of the rules follows:

TITLE 19. ALCOHOL, HORSE AND DOG RACING, LOTTERY, AND GAMING

CHAPTER 3. ARIZONA STATE LOTTERY COMMISSION

ARTICLE 4. ON-LINE LOTTERY GAMES

Section
R19-3-402. "Bingo"

ARTICLE 4. ON-LINE LOTTERY GAMES

R19-3-402. "Bingo"

A. Definitions
1. "BINGO" means an on-line game in which 24 play symbols of a 75 play symbol matrix are selected as a game card.
2. "Drawing" means the process used to randomly select winning play symbols from the defined game matrix.
3. "Game card" means the area on the ticket which contains the grid in which 24 randomly selected play symbols are printed. There may be more than 1 game card on a ticket.
4. "Multiple winners" means a situation in which more than 1 claimant redeems the same predetermined prize amount.
5. "Play symbols" means the numbers, letters, or characters printed on each game card of a ticket that determine if a player is entitled to a prize.
6. "Ticket" means paper stock issued from a terminal by a licensed Lottery agent bearing 1 or more game cards.

B. Ticket purchase and characteristics
1. To play the on-line "Bingo" game, a player shall indicate the following by verbally communicating to the retailer:
   a. The number of tickets the player wishes to purchase, and
   b. The number of advance plays, if applicable.
2. A unique serial number shall be printed on the front of the ticket that shall distinguish it from every other ticket.
3. A retailer shall issue, from an authorized Lottery terminal, a ticket containing 1 or more game play areas ("game cards") as specified in the Game Profile, each of which shall contain 24 randomly selected play symbols from a matrix of 75 play symbols and a "FREE" play symbol.
   a. The 24 randomly selected play symbols shall be printed on each of the play cards forming a grid of 5 rows and 5 columns.
   b. The 3rd play symbol in the 3rd column shall be the symbol "FREE".
4. On-line Bingo tickets may not be voided or canceled.

C. Game playstyle and determination of a winning ticket
1. A player shall win the prize or prizes indicated by matching the play symbols in the play area to the play symbols that appear in 1 or more of the following patterns as indicated in the Game Profile:
   a. Five consecutive play symbols, including the "FREE" play symbol, if appropriate, in any horizontal, vertical, or diagonal line as illustrated in Exhibit "1"; or
   b. Play symbols in all 4 corners as illustrated in "Exhibit 2"; or
   c. All 5 consecutive play symbols in the top row, the bottom row, and the 1st and 5th columns forming an outer frame pattern as illustrated in "Exhibit 3"; or
   d. The 2nd, 3rd, and 4th play symbols in the 2nd row and in the 4th row, the 2nd, 3rd, and 4th play symbols in the 2nd column and the 4th column, forming an inner frame pattern as illustrated in "Exhibit 4"; or
   e. The 1st, 2nd, 4th, and 5th play symbols in the 1st, 2nd, 4th, and 5th rows, forming a box pattern in each of the 4 corners as illustrated in "Exhibit 5"; or
   f. The 3rd play symbol in the 1st and 5th rows, the 2nd and 4th play symbols in the 2nd and 4th rows, and the 3rd play symbol in the 1st and 5th columns, forming a diamond pattern as illustrated in "Exhibit 6"; or
   g. The 3rd, 4th, and 5th play symbols in the 1st and 5th columns, the 2nd and 4th play symbols in the 2nd and 4th columns, the 1st and 4th play symbols in the 3rd column, forming an "A" pattern as illustrated in "Exhibit 7"; or
   h. The 1st, 2nd, 3rd, 4th, and 5th play symbols in the 1st and 5th rows, and the 1st play symbols in the 2nd, 3rd, and 4th rows, forming a "C" pattern as illustrated in "Exhibit 8"; or
   i. The 1st, 2nd, 3rd, 4th, and 5th play symbols in the 1st column, and the 2nd, 3rd, 4th, and 5th play symbols in the 5th row, forming an "L" pattern as illustrated in "Exhibit 9"; or
   j. The 1st, 2nd, 3rd, 4th, and 5th play symbols in the 1st and 5th columns, and the 3rd play symbol in the 2nd and 4th columns, and the "FREE" play symbol, forming an "H" pattern as illustrated in "Exhibit 10"; or
   k. The 1st, 2nd, 3rd, 4th, and 5th play symbols in the 1st row, and the 2nd play symbol in the 3rd column, the "FREE" play symbol, and the 4th and 5th play symbols in the 3rd column, forming a "T" pattern as illustrated in Exhibit "11"; or
   l. Five consecutive play symbols in both diagonals forming an "X" pattern as illustrated in "Exhibit 12"; or
   m. The 1st, 2nd, 3rd, 4th, and 5th play symbols in the 1st row and 5th row, the 2nd play symbol in the 4th column, the "FREE" play symbol, and the 4th play symbol in the 2nd column, forming a "Z" pattern as illustrated in "Exhibit 13"; or
   n. The 1st, 2nd, 3rd, 4th, and 5th play symbols in the 1st row, the 2nd play symbol in the 4th column, the "FREE" play symbol, the 4th play symbol in the 2nd column, and the 5th play symbol in the 1st column, forming a "7" pattern as illustrated in "Exhibit 14"; or
   o. All of the play symbols in the 1st, 2nd, 3rd, 4th, and 5th rows, and the "FREE" play symbol, creating a "blackout" as illustrated in "Exhibit 15".

D. Ticket ownership and responsibility; prize payment
1. Until a ticket is signed, the ticked is owned by its physical possessor.
2. When signed, the claimant whose signature appears on the ticket is entitled to the corresponding prize.
3. If more than 1 signature appears on the ticket, the Director is authorized to require that 1 or more of those claimants be designated to receive payment.

4. A claim form shall be submitted by each claimant who is designated by the Director to receive a portion of the prize claimed from the winning ticket.
5. Prior to payment of a prize, a claimant who has signed the ticket may designate another claimant to receive the prize by signing a relinquishment of claim statement.
6. Prizes shall be paid by cash or check, according to the provisions of subsection (K).
7. All prize levels except the jackpot are fixed amounts, to be specified in the Game Profile. Each game card winning any prize except the jackpot entitles the winner to the prize amount specified in the Game Profile.
8. Each jackpot prize winner shall be paid an equal portion of the jackpot prize amount. The jackpot prize amount shall be determined by the number of tickets purchased, the number and amounts of lower prize won, and whether the jackpot amount was won in previous drawings.
9. No more than the highest established prize value or values shall be paid on each card.
10. Prizes shall be paid by cash or check, according to the provisions in subsection (G).
11. The Lottery is not responsible for lost or stolen tickets.

E. Ticket validation requirements

1. To be a ticket eligible to receive a prize, all of the following requirements shall be satisfied:
   a. The ticket is:
      i. Issued by the Lottery through a retailer, from a terminal, in an authorized manner;
      ii. Intact, and is not mutilated or tampered with in any manner;
      iii. Not defectively printed or produced in error;
      iv. Not counterfeit, stolen, or voided;
      v. Able to pass all other security requirements determined by the Director;
      vi. Validated in accordance with the provisions of subsections (C) and (D).
   b. The ticket data is:
      i. Recorded in the on-line contractor's central computer system prior to the drawing;
      ii. In agreement with the computer record;
      iii. In the Lottery's official file of winning tickets, and has not been previously paid.
   c. Any winning game play on the ticket is separately lettered and consists of a selected set of numbers from the defined game matrix.
2. If a ticket fails to pass any of the requirements in subsection (E)(1), the ticket is void and ineligible for any prize payment.

F. Disputes concerning a ticket.

1. If a dispute between the Lottery and a claimant occurs concerning a ticket, the Director is authorized to replace the disputed ticket with a ticket of equivalent sales price from any subsequent drawing of the same game.
2. Replacement of the disputed ticket is the sole and exclusive remedy for a claimant.

G. Procedure for claiming prizes.

1. To claim a prize of up to an including $599.00, the claimant shall present the signed ticket to any participating on-line retailer. The retailer shall pay the claimant provided that:
   a. All of the ticket validation criteria in subsection (E) have been satisfied;
   b. A proper validation ticket, which is an authorization to pay, has been issued by the terminal.
2. To claim a prize that the retailer does not validate or is not authorized to pay, including all prizes $600 or more, the claimant shall submit a claim form, available from any retailer, and the ticket to the Lottery.
3. If the claim is:
   a. Validated by the Lottery, a check shall be forwarded to the claimant;
   b. Denied by the Lottery, the claimant shall be notified within 15 days from the day the claim is received in the Lottery office

H. The definitions and provisions of R19-3-401 except for those contained in (H), (I), (J), and (K), do not apply to the on-line "BINGO" playstyle.

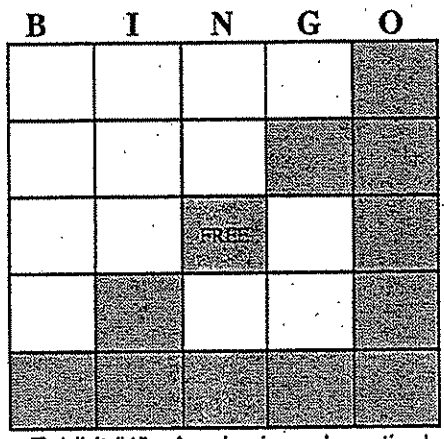

Exhibit "1": Any horizonal, vertical, or diagonal line

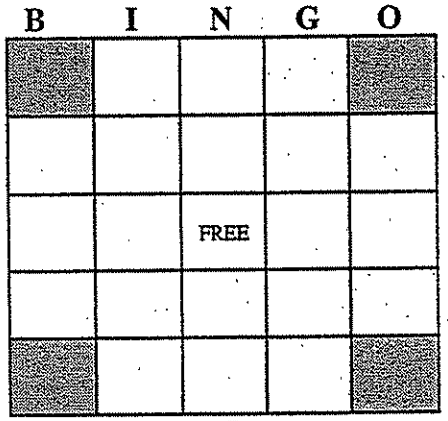

Exhibit "2": Four corners

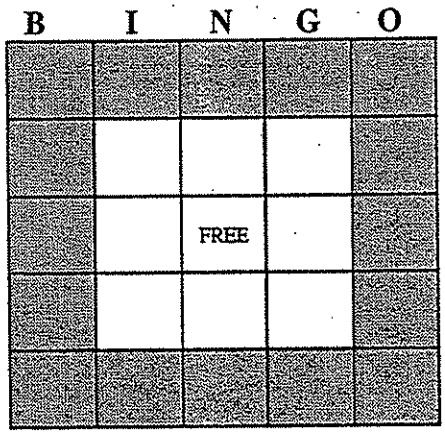

Exhibit "3": Outer frame

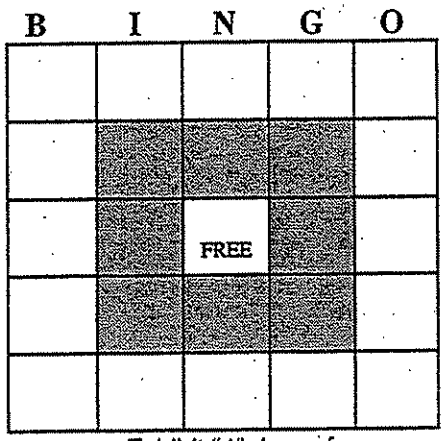

Exhibit "4": Inner frame

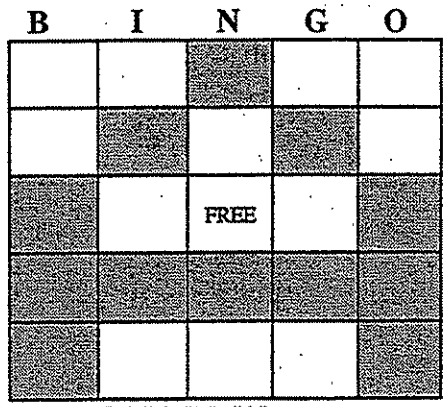

Exhibit "7": "A" pattern

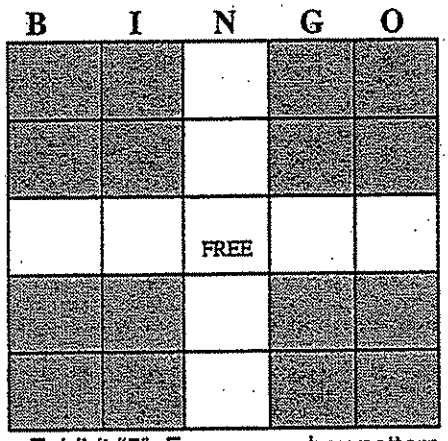

Exhibit "5": Four corner box pattern

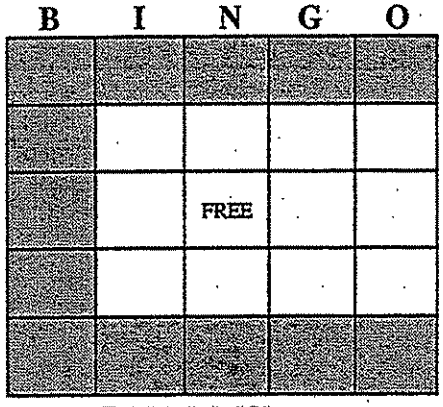

Exhibit "8": "C" pattern

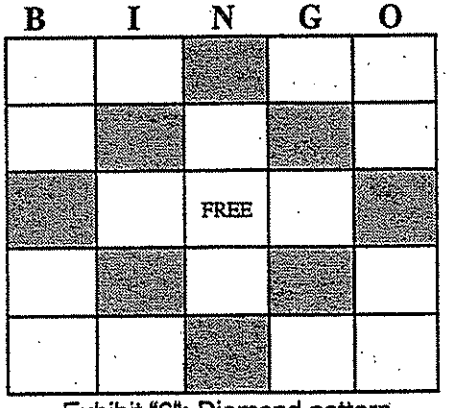

Exhibit "6": Diamond pattern

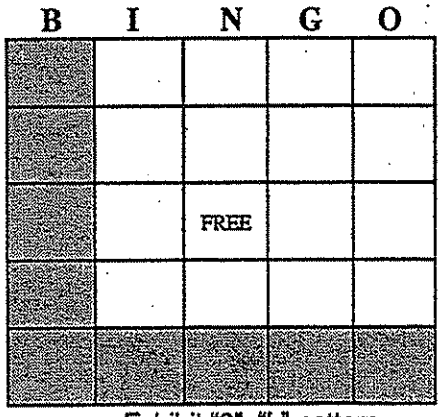

Exhibit "9": "L" pattern

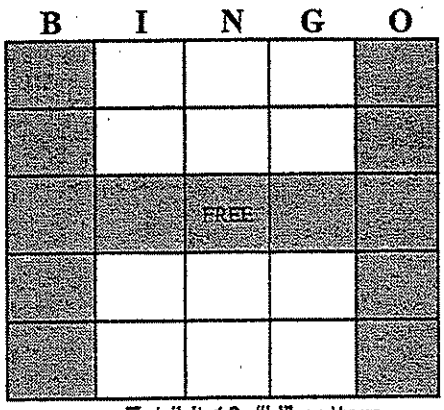

Exhibit 10: "H" pattern

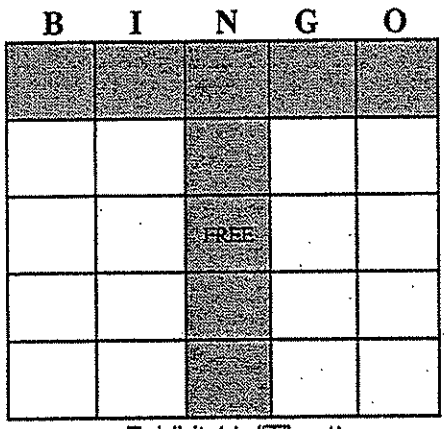

Exhibit 11: "T" pattern

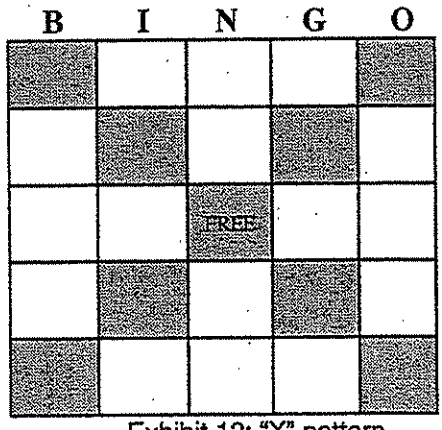

Exhibit 12: "X" pattern

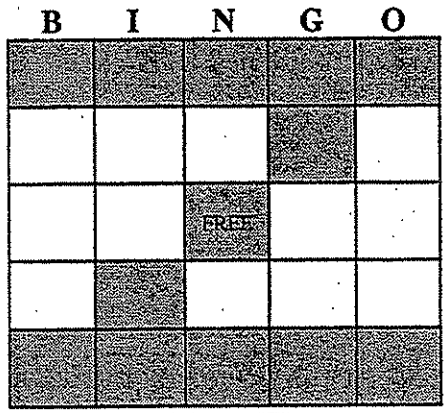

Exhibit 13: "Z" pattern

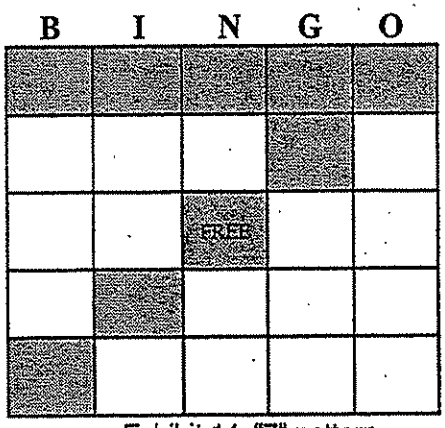

Exhibit 14: "7" pattern

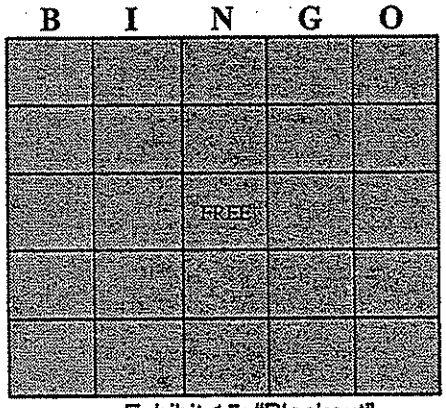

Exhibit 15: "Blackout"